THE

QUARTERLY JOURNAL

OF

ECONOMICS

NOVEMBER, 1902

THE SUGAR INDUSTRY AND LEGISLATION IN EUROPE.

I. The Rise of the Beet-sugar Industry.

It may be doubted whether any phase of the agricultural history of the nineteenth century presents a series of more interesting problems than the rise of the beet-sugar industry in Europe. The parent of the present sugar beet was indeed known and cultivated from the earliest times of historical antiquity. Herodotus mentions it as one of the plants which served to nourish the builders of the Pyramids. Hannibal, we are told, drew back from before Casilinum because the inhabitants made sport of their wants by cultivating beets upon the town walls. Pliny gives careful rules for their planting and cultivation.

But, although the beet had long been cultivated, and its sweetness was early recognized, the fact that it could be used for the manufacture of sugar identical with the product of the sugar cane was not discovered until 1747; and its use for that purpose has been practically confined

to the last hundred years, while it is only within twenty years that beet sugar has attained a position of decided predominance in the sugar markets of Europe.

This great revolution in the sugar industry has been made under conditions in many respects peculiar. The beet is regarded as indigenous, and certainly has long grown wild in some of the most important seats of present and past cane-sugar production,—in India, Mesopotamia, and along the shores of the Mediterranean. The successful cultivation of the beet for sugar, however, began and has continued in central and northern Europe; and its extension in recent years has shown a distinctly northward tendency, being especially marked in Sweden, Denmark, and north-eastern Prussia.*

Not less interesting is the paradoxical position which the industry occupies in connection with the European agricultural crisis of the past thirty years. The chief cause of that crisis has been the great extension of agriculture to new fields through the "space-annihilating" instrumentality of the steamship and the railway. The competition which Europe has had to face from these new fields has naturally been most keen in the production of staple commodities, such as grain and wool, which are neither too bulky nor too perishable to be

* During the last three or four years a considerable development of the beet culture has taken place in latitudes further south, especially in Italy, Spain, and the United States; but it is as yet too soon to attempt to forecast the future of the industry in these countries. On the subject of the geographical distribution of the industry a flood of light is thrown by the recent investigations of the United States Department of Agriculture into the "Influence of Environment on the Composition of the Sugar Beet" (Bulletin 64 of the Bureau of Chemistry, by Dr. H. W. Wiley). As to the results of these investigations, Dr. Wiley says: "The production of sugar in the beet is practically a function of sunshine; and so, the higher we can go north in the summer-time, the longer the hours of sunshine and the greater the production of sugar will be. In fact, it has been shown that the beet-sugar industry does best when pushed as far north as will permit the growth and harvesting of the crop before the freezes of winter set in." Here we have certainly an important circumstance in giving northern Europe its predominance in beet-sugar production. It is the conjunction of warm climate and long summer days. The

transported long distances. The production of wool has decidedly fallen off in almost all European countries during the last fifteen or twenty years, having actually increased in Switzerland alone. In England the acreage devoted to wheat was less than half as great in 1896 as in 1868. And if, owing to the protection afforded by import duties, a similar movement is not to be seen in France and Germany, it is nevertheless evident from a glance at the statistics of imports and exports that the grain production has kept pace neither with the growth of the population nor with the progress of agriculture in other directions. The agriculturists of Europe have indeed more and more ceased to produce such articles, and have turned their attention either to special commodities, such as wine, for which the soil and climate of particular regions are peculiarly adapted, or to garden vegetables, dairy produce, and other perishable products.

Now sugar is an article which seems to fulfil all of the requirements for production at a distance from the market. It is non-perishable and of little bulk, and an article of large and steady consumption. Nevertheless, beet sugar continues to drive cane sugar out of the markets of the world; and the growing of the beet, which is suited to cultivation within a wide range of latitude and on a great

severer climate of the same latitudes in America prevents the cultivation of the beet to advantage, and drives it southward to regions where it receives less sunshine and is therefore less rich in sugar. The temperature zone in which the beet attains its greatest perfection (see Farmer's Bulletin No. 52, Department of Agriculture) passes almost wholly south of latitude 45 degrees north in the United States: whereas, practically, no sugar is produced south of that latitude in Europe,— excepting Spain and Italy, above mentioned,— and the greater part of the beets in Europe are raised north of latitude 50 degrees. The fogs of England have also no doubt been as inhospitable to the beet as has the government. The influence of the methods of beet raising, which requires intensive cultivation and admits of slight use of machinery, upon the slow progress of the industry in the United States, has been pointed out in the last chapter of Taussig's *Tariff History*. The progress of the industry in America during the last few years seems largely due to the partial overcoming of this difficulty by a greater application of machinery to the cultivation of the beet.

variety of soils, concentrates itself within the most thickly populated agricultural districts of Europe, having as yet made comparatively insignificant progress in other parts of the world.

These several paradoxes lend an especial interest for the economist and statesman to the nature of the legislative systems which have surrounded the development of the beet-sugar industry. No other agricultural industry presents so much the appearance of a hot-house growth. Born under the exceptionally artificial conditions of Napoleon's "Continental System," fed in its infancy on the rich food of governmental bounties and prizes, the industry has at no time been completely weaned from governmental support. It enjoyed in its youth, from the '20's to the '60's, and still enjoys, the protection of high, at times prohibitive, import duties. In its manhood, within the last thirty or forty years, it has been encouraged and supported by a gigantic system of export bounties.

The discovery of sugar in the beet was made by a German apothecary, Margrave, in 1747. No attempt was made to apply this discovery practically until the close of the eighteenth century. The experiments then made by Achard in Silesia under government aid and encouragement, and by others in Austria and Russia under similar encouragements, served to call the attention of the world to the subject, but failed to produce immediately profitable results. It was the extraordinarily high price of sugar under the "Continental System," together with important direct aid from Napoleon and others, that first brought the industry into existence on a paying basis. Between 1808 and 1814 numerous factories were established in France, Germany, and Austria; and they turned out apparently not inconsiderable quantities of sugar. The factories of Germany and Austria disappeared with the artificial conditions which had called them into existence. In France a few managed to live on under the pro-

tection of a very high import duty, and in the hands of eminent chemists began to prosper again after a few years. The beet-sugar industry has had, therefore, in France a continuous existence from the time of Napoleon. The renewed prosperity of the industry dates from about the year 1820. The third decade of the century and the early years of the fourth saw the reintroduction of the industry into Germany, Austria, and Russia, and its introduction into Belgium.

The growth of the industry during the period 1825–1850 was in most cases a rapid one. Definite figures of the production before the subjection of the industry to taxation are, as a rule, not in existence. The taxation began in France in 1839; Germany, 1841; Belgium, 1843; Austria, 1848; Russia, 1849. The table below* affords an idea of the progress of the industry from 1853 until the present time, and of the comparative progress of beet and cane sugar. Of course these statistics cannot lay claim to great accuracy. In most of the cane-producing countries statistics are very inadequate. Moreover, in many European countries,—in Austria, Belgium, Russia, and Holland,

*SUGAR PRODUCTION FOR THE WORLD'S MARKETS.

(1,000 tons of 1,000 kilograms.)

YEAR.	Beet sugar.	Cane sugar.	Total.	Percentage of beet sugar.
1852–53	202	1,260	1,463	14.0
1859–60	451	1,340	1,792	25.7
1864–65	529	1,466	1,996	26.5
1869–70	846	1,740	2,586	32.7
1874–75	1,302	1,903	3,206	40.6
1879–80	1,539	1,988	3,528	43.6
1884–85	2,697	2,594	5,291	51.0
1889–90	3,523	2,507	6,000	58.2
1894–95	4,699	3,570	8,269	56.8
1895–96	4,281	2,945	7,226	59.2
1896–97	4,837	2,477	7,314	66.1
1897–98	4,755	2,864	7,619	62.3
1898–99	4,827	2,995	7,822	61.7
1899–1900	5,456	2,867	8,323	65.5
1900–1901	6,040	3,435	9,475	63.7

(From Conrad's *Handwörterbuch*, 2d edition, vol. vii. p. 1001.)

—not to mention more insignificant cases, accurate statistics for the whole or a part of the half-century are lacking, those given out being frequently only for the "amount taxed," under systems of taxation which allowed considerable amounts of sugar to escape. It must also be borne in mind that these figures do not include either China or India; and the production and consumption of the latter country alone, according to conservative estimates, cannot be placed lower than 2,000,000 tons per year. In the world as a whole, therefore, cane sugar still holds the first place.

II. Beet and Cane Sugar as Competitors.

Before entering upon the examination of the legislation favoring the beet-sugar industry, it will be well to point out some of the salient characteristics of the cane and the beet respectively, to indicate the tendencies and attempt to estimate the importance of some of the peculiarities of the two plants, and of their conditions of growth and manufacture into sugar. Certain important facts stand out with especial prominence, and an understanding of their influence is essential to a proper appreciation of the legislative factors in the contest.

The success of the beet is obviously in large measure to be attributed to those general forces which have led to the concentration of the higher forms of civilization and of economic development in temperate rather than in tropical regions. If the conditions of soil and vegetation under the tropical sun were favorable to the cane-sugar producer by yielding him enormous crops with relatively slight expenditure of labor and exhaustion of the soil, the bracing climate of the temperate regions enables the beet producer to expend a much greater quantity of energy in the raising of his crops and the working up of his raw material into sugar. It is of great importance, also, that

in the tropics means of communication are very inferior, machinery is costly, fuel for the most part scarce, and the conditions of life in general such as to prevent, on the one hand, the creation of a high degree of intelligence on the part of workmen, and, on the other hand, to require important pecuniary inducements to bring about their importation from abroad. Political conditions generate insecurity of property and a consequent high rate of interest, lack of initiative in the adoption of improvements and general lethargy.

When we attempt to go beyond such a general statement as this, to compare in detail the productiveness of the two plants, the cost of their cultivation and working up into sugar, we enter a field in which it is extremely difficult to draw conclusions. It is impossible to compare satisfactorily in detail the cost of production of the two kinds of sugar. Such a comparison would rest necessarily on an exact measuring of the cost of labor in the two industries, which cannot for various reasons be successfully carried out. Statistics of wages in cane-sugar countries, even where they exist, are unreliable in the extreme. Moreover, statistics as to wages and salaries in the two competing fields are obviously of little value for the purposes in hand; for, in the case of agricultural labor generally, and more especially of labor under such widely differing conditions as are here considered, it is impossible to obtain a unit of measurement of even approximate definiteness. Such a comparison could lead to little more than a restatement, in another form, of the original problem.

There seems little doubt that the production of sugar from cane, for a given area cultivated, is greater on the average than from the beet. The extent of the advantage of the cane is not so great as might be supposed from some individual cases. The conditions of the planting and growing of the cane differ much more widely from

one country to another than do those of the beet. The latter has in all cases a period of from six to eight months of growth. The cane varies from nine or ten months in Louisiana to from twenty to thirty in Java. In the latter country, as in Eastern Asia generally, the cane is replanted after each harvest. In other places it is replanted only after three, four, or five harvests, the cane being allowed in the intervening seasons to grow up from the stubble. Stubble cane, however, yields continuously decreasing returns; and, for determining the actual yield of the cane, an average must be taken of the whole period of a planting. After taking these facts into consideration, Paasche * arrives at the following statement of the average yield of raw sugar (metric centners) per hectare cultivated:—

Germany, 34.6.
France, 27.3.
Russia, 17.1.
India, 22.6 (poor quality).
Japan, about 10–20.
Java, about 75–80 (with nearly two years' growth,—per year, 40–50).
Philippines, about 20.
New South Wales, about 25 (planted).
Hawaii, about 25 (planted).
Cuba, " 40–50 (harvested cane).
Martinique, about 30–32 " "
Guadeloupe, " 36 " "
Demerara, " 32–38 (planted).
Louisiana, " 22–25 (harvested cane).
Egypt, 27–32.
Reunion-Mauritius, 35 (planted).

It is safe to say also that the cane contains, on the average, somewhat more sugar per weight than does the beet, the relation being something like 16 or 17 per cent. for cane to 14 or 15 per cent. for beet.

Of considerably more significance is the fact that the nature of the non-saccharine substances with which the sugar is associated in the beets is such as, on the one hand, to present greater obstacles to the process of sugar manufacture, and, on the other, to render necessary a much more perfect freeing of the sugar from these substances, in order to make it suitable for consumption, than is the case with the cane. Beet juice, beet molasses, and raw

* *Zuckerindustrie und Zuckerhandel der Welt*, p. 344.

beet sugar are of an unpleasant odor and taste. The cane, on the other hand, was long cultivated in India for its juice alone before the process of crystallizing sugar was discovered. The molasses left after sugar extraction, in the case of the beet, is suitable only for producing raw alcohol, for fertilizing, or for feeding, after preparation, to cattle. In the case of the cane it is used in large quantities for the production of syrup and rum. Raw cane-sugar, as is well known, enters directly into consumption in large quantities in many parts of the world, especially in the tropics; and it is only since the cost of refining has been reduced to an insignificant figure, within the last decade or two, that raw cane sugar has definitely passed out of direct consumption in England and the United States.

Although the cane possesses advantages over the beet as a sugar producer, the beet has a decided advantage over the cane in the uses to which the chief by-product of the sugar factory, the pulp, can be put. It has already been seen that the beet was cultivated for cattle-feeding purposes before its use for sugar making began. When sugar began to be regularly extracted, the pulp was made to serve the same purpose which the entire beets had served before. In the early days of the beet-sugar making, when the processes of sugar extraction were very imperfect, the pulp retained a very high value for this purpose. It was found by experience to be subject to far less waste in the process of consumption by cattle than the original beets, and was consequently regarded as of nearly equal value with the latter. The sugar was looked upon as almost clear gain. The sugar factories were in those days very small, and were largely "agricultural industries," especially in Germany, Russia, and Austria, where large estates prevailed in the chief sugar districts. Individual *Gutsherrn* owned and ran their own factories, depending chiefly on their own fields for beets, and using

the pulp for fattening their own cattle, although they might also buy beets from and sell pulp to their lesser neighbors.

This cattle-feeding branch of the beet raising formed in the early years the chief strength of the beet-sugar industry. It is safe to say that, if the beet pulp could have been put to no better use than is the cane pulp,— that of fuel and fertilizing,— the beet-sugar industry would, up to within the last fifteen years, not have advanced beyond the experimental stage. With the extraordinary improvement in the art of sugar manufacture and in the sugar-yielding character of the beet, which has taken place within recent years, the importance of the cattle-feeding branch of the business has been very much lessened. In France, where, to be sure, the change has taken place later and more rapidly than in other countries, the average price of beets per metric ton was in 1881–82, 20.87 francs; that of pulp, 10.10 francs. In 1900–01, beets had risen to 29.71 francs, while pulp had fallen to 4.18 francs. During the same period the average percentage yield of sugar from beets increased from 5.84 to 11.93.

If the success of the sugar-beet industry was, in its early years, very largely dependent upon the use of the pulp for feeding, its progress and extension in recent years is largely to be attributed to the same force which has so greatly lessened the value of this by-product; namely, increase in the percentage of sugar secured from a given weight of beets. The improvement which has been made in this respect is certainly remarkable. Achard, who made the first practical application of Margrave's discovery, at the beginning of the nineteenth century, was proud of a yield of 3 or 4 per cent. A few years later, between 1809 and 1813, the sugar factories of Bohemia could boast of no greater yield than from 2 to 2½ per cent.* At the present time the average yield in Ger-

*J. V. Divis, *Beiträge zur Geschichte der Zuckerindustrie in Böhmen*, p. 5.

many, France, and Austria, runs from 10 to 13 or 14 per cent., and individual cases of 16 or even 18 per cent. are not uncommon. This increase has been the result of improvements in two directions,— (1) in the processes of manufacture, and (2) in the saccharine character of the beet.

The advance in manufacturing processes, by which a greater proportion of the sugar is extracted from the beet, or the same proportion at a smaller cost, has been brought about in the main by general mechanical improvements involving the saving of labor and of fuel, and by the reduction of waste through the increase of the scale of operations. One radical change in the nature of the sugar-extracting process, the introduction of *diffusion*, deserves particular mention. By the older processes the beets were first either ground or sliced; and the juice was then extracted by pressure, by centrifugal force, or was simply washed out. The process now generally in use, which was suggested by a Frenchman as early as 1821, and first put into successful operation in Austria in 1860, rests upon the principle of cellular diffusion. The sliced or ground beets are submerged in water of a given temperature (about 50° Centigrade), whereupon the sugar and a part of the non-saccharine substances pass through the cell walls, leaving in the pulp a part of the non-saccharine substances, which by the other processes are taken out, and must be removed later on from the juice. The astonishingly rapid progress in sugar yield in the early years of the application of this process, and the difficulties which the governments of several countries, especially Austria and Russia, experienced in their efforts to adapt the legislation to the changes, will presently be seen. The rapidity with which the process was substituted for the older ones in the several countries serves as a good indication of the comparative progressiveness of their sugar manufacturers.

In recent years, under pressure of competition from beet sugar, especial efforts have been made to improve the methods of cane-sugar manufacture. This has been done very largely by the adaptation to cane-sugar manufacture of methods first introduced into beet-sugar making. Efforts in this direction have been attended with numerous difficulties. (1) Improvements have involved usually an increased use of fuel for furnishing steam power and for heating water for diffusors. Fuel, however, is in most tropical countries scarce and costly. Moreover, the pulp of the diffusion process is left in a wet condition, and must be especially dried before being fit for use as fuel, for which it is generally used.* (2) Improvements depend very largely on increased size of factories. Means of communication are usually inferior and difficult of maintenance in the tropics, so that it is difficult for the large factories to secure a sufficient supply of cane. Some of the smaller islands of the West Indies, which a half-century or so ago were the seats of a very prosperous sugar industry with numerous factories, cannot now produce cane enough to supply a good-sized modern factory. (3) The improvement in processes calls for constantly improving intelligence on the part of the workmen and managers, and this is difficult to find among the natives and costly to import.

Scarcely less important than the improvement in the beet manufacture has been the advance of the agricultural side of the industry. The selection and growing of beet-seeds has become one of the highest branches of modern agriculture. Efforts have of course been directed to improving the size as well as the quality of the beet. The nature of the legislation in several countries has, however, given a special impetus to the latter tendency. While

* The moist condition of the pulp exercised a considerable influence in retarding the adoption of diffusion in beet-sugar manufacture, especially in France and Belgium, where the peasants at first objected to the use of this moist pulp for feeding purposes.

this has in some cases led to a sacrifice of the size of the beet to its quality, and therefore to a development not wholly desirable, the general tendency to an increase in the saccharine quality of the beet cannot but be regarded as an advance. It has especially in its favor the fact that it tends to reduce the exhaustion of the soil from beet culture. Sugar being a carbohydrate, the elements which go to form it are drawn almost entirely from the atmosphere; and the beet consequently draws less of the strength from the soil as its proportion of sugar increases.

It is no doubt owing in large part to the general backward condition of the topics that no great corresponding improvement in the character of the sugar cane has been made. It seems probable, however, that the characteristics of the cane itself are responsible for a part of this backwardness. The cane is planted, not from seeds, as is the beet, but from slips or tops. Numerous experiments in the selection of tops for planting have, according to the British government analyst, Mr. J. B. Harrison, led to no result. Only within the last dozen years or so has it been rediscovered that the cane can produce fertile seeds, and serious attempts made to improve it by the selection of seeds for planting.* It is as yet too early to judge whether these experiments may in time lead to development of the sugar cane similar to that which has taken place in the case of the beet. Mr. Harrison is

* "The Results of Recent Scientific Researches into the Agricultural Improvement of the Sugar Cane," in *Sugar Cane*, September, 1897. On the subject of this discovery, Mr. Harrison says: "Until within the last ten years the idea that the sugar cane could produce fertile seeds was by the great majority of planters and botanists regarded as absolutely without proof, and attempts to raise canes from seeds were regarded to be as futile as I hold attempts to obtain graft hybrids are. How this scientific and popular error arose it is difficult to tell. Some years ago, with the assistance of Mr. Carruthers, the keeper of botany at the British Museum, I searched through a lot of old botanical works; and we could find no trace of this belief until about 1750, when Hughes wrote his Natural History of Barbados. Nay, more, we found descriptions of the seed of the sugar cane so complete and accurate that Carruthers considered they must take precedence of all recent work."

hopeful, and thinks that "the facts that in this colony [British Guiana], in Java, and in Queensland canes have been raised from seed having considerably higher sugar contents than the staple varieties show are most encouraging, and should lead to increased activity in pursuing this line of research." To an outsider the results do not seem very encouraging. In Barbados, where this line of research originated, no favorable results have been attained. Increase in size, moreover, where secured, has been at the expense of quality, and improved quality at the expense of size. "We have raised," he says, "several varieties yielding individual canes of great size, far in excess of that of any known kind; but, unfortunately, these have all been of low saccharine strength. We have not succeeded in obtaining as yet large-sized canes of exceptionally high saccharine strength, but hope to do so in the future." *

Mention must also be made, in speaking of the competitive disadvantages of the sugar cane, of the effect of the abolition of slavery. The question is too wide in its bearings to be discussed here at length. However salutary, both morally and economically, abolition may prove in the end to be, its immediate effect has certainly been in some places little less than disastrous to the sugar industry; and it has been immediately beneficial to it almost nowhere. The fiscal systems of the cane-producing countries have also been, in the main, the opposite of encouraging. In a few cases, notably the French colonies, Louisiana, and Hawaii, protection has been given to the industry. The French colonies even enjoy the benefit of the export bounties now granted by the home government in case the

*From a careful article on "West Indian Sugar-cane Experiments," in the London *Times* of January 11, 1902, it appears that these attempts to improve the character of the cane continue to be "promising" without having as yet yielded definitely ascertained success. Moreover, experiments carried out with a view to discovering the best existing breed of cane for cultivation gave widely divergent results for 1900 and 1901. The differences are ascribed to the weather.

sugar goes to France. In other cases, however, it has been export duties rather than bounties which the industry has had to face. On the whole, the influence of governmental interference with the industry has, at least until very recent years, been rather disadvantageous than the contrary.

III. Legislative Forces in Europe.

The sugar legislation of Europe, it needs scarcely be said, has not been determined solely by the interests of the beet-sugar industry. On the contrary, it has been the resultant of a complex of forces whose relative importance has varied considerably from one time to another and in different countries, but whose general tendencies have remained comparatively constant. The most important of the forces which will have to be considered are the following: (*a*) the consumers of sugar, their attitude towards the legislation, and the attitude of the government and of the various industrial interests towards them; (*b*) the refiners and the legislation affecting them; (*c*) the raw sugar producers and their interests as affected by the form of the domestic sugar taxation, and by the bounties, direct and indirect, on export; (*d*) the fiscal interests of the government.*

* Other interests which might be included are those of the colonies and those of the merchant marine. The latter were much in evidence during the infancy of the beet-sugar industry. The cane sugar of the West and East Indies furnished return cargo to vessels carrying out European products, and the encouragement of the beet-sugar industry was vigorously combated on that account. The colonial interests have been of influence among beet-sugar producing countries, chiefly in France. The French colonies have been afforded protection for many years, and they share at present to a large extent in the favors granted to the domestic beet-sugar industry. After the emancipation of the slaves, between 1851 and 1870, there was even a differential (at first ten per cent. and then gradually reduced) in favor of colonial sugar. Other countries, such as Holland and Spain, have been rather exploiters than protectors of their sugar colonies. England comes in a different category. She has no beet-sugar industry, and her colonial interests will consequently be best discussed in connection with the movement for the repeal of the bounties.

A. The Consumers.

The sugar legislation of Continental Europe differs from that of America and the British empire in that it has been very little influenced, comparatively speaking, by the interests of the consumers. England abolished her sugar duty as early as 1874, almost solely out of deference to the interests of the consumers, and has only been induced to resort again to the tax by the revenue necessities of the war. In the United States, also, a strong feeling exists in favor of free sugar; and the temporary removal of the tax by the McKinley act would doubtless have become permanent but for the greater insistency of various producing interests, coupled with the fiscal difficulties of the bounty on production which that act introduced. On the continent of Europe such a feeling is scarcely to be noticed. This is to be explained by the widely different position which sugar occupies in general consumption. The annual average per capita consumption of sugar in Russia is only about 14 pounds; in Austria-Hungary, 17 or 18; in Belgium, 23; in Holland, 32; in Germany, 34; in France, 37. In the United States, on the other hand, it rises to 69 pounds, and in England to more than 80. These figures no doubt exaggerate the differences between England and the Continent. Much of the sugar which figures in the statistics of consumption in England is used for the manufacture of jams and preserved fruits, which are only in part for domestic consumption. Indeed, some of the bounty-fed sugar from the Continent finds its way back to the country of its origin, and is consumed in this disguised form. After all allowance has been made for this factor, however, it remains true that the consumption of sugar on the Continent is far less than in English-speaking countries.

The sugar tax is objected to in America and England on the ground that it weighs most heavily on the poorest

classes. On the Continent this seems hardly to be the case, certainly not to anything like the same extent as in the United States. The point is one difficult of precise determination, and cannot here be entered into at length. Some idea of the position of sugar in the consumption of the people of Germany may be gained from the investigation into the expenditure of a number of German households by Neuman,* which resulted, so far as sugar consumption was concerned, as follows: —

Income (marks).	Sugar consumption (pounds).	Costing (marks)	Involving tax of about (marks)	Relation of tax paid to income (percentage).
Over 10,000	286	145	25.7	0.11
4,000–10,000	153	72	13.7	0.22
2,000–4,000	85	46	7.7	0.27
1,200–2,000	38	17	3.4	0.24
800–1,200	32	14	2.9	0.29
Under 800	9	3.5	0.9	0.17

The pronounced falling off in the consumption of the lowest class is significant. This class nearly corresponds to that which by the Prussian law of 1891 is exempt from income tax payments (900 marks).

The foregoing serves in large part to explain why such attempts as have been made on the continent of Europe, with or without success, to reduce the sugar tax with a view to increased consumption, have aimed not in the main at an increase of consumption for its own sake,— to sweeten the lives of the poorer classes and gladden the hearts of the children,— but rather to increase the demand for the products of a domestic industry whose maintenance was thought for one reason or another to be of great importance, and whose foreign market was recognized to be precarious. Such attempts have emanated

* *Gemeindesteuerreform in Deutschland*, quoted by W. Katzenstein, *Die deutsche Zuckerindustrie und Zuckerbesteuerung*, p. 201. In the case of salt, according to the same investigation, the tax made only 0.02 per cent. of the income in the first class and 0.56 per cent. in the lowest class.

not from the spokesmen of the consumers, but from the producing interests. In recent years a considerable agitation in this direction has arisen. Reduction of taxation is, in fact, only one of several measures now being urged for the purpose of increasing sugar consumption. General newspapers and periodicals, as well as the chief organs of the sugar interests, contain much discussion of the value of sugar as nourishment for man and beast. A favorite scheme is that of introducing sugar into the rations of the soldiers, or, where this has already been done, of increasing the allowance. In this instance, it is urged, the government is able to help the sugar producers directly to a better home market. The soldiers will also, it is thought, take the taste for sugar, acquired in the service, back to their homes, when their terms are over, and spread it among their neighbors and friends. This movement has become much more marked since the action taken by the International Sugar Conference in March, 1902. Confronted by the probability, in case the convention is ratified, of a much less profitable foreign market than heretofore, the cry for increased home consumption has become louder than ever.*

B. The Refiners.

The refining industry began and flourished long before the beet was made use of for sugar production. Among industrial forces influencing the sugar legislation, therefore, the interests of the refiners were earliest in the field; and they have continued to exercise at least an indirect influence on the legislation affecting the raw sugar pro-

* Dr. Brukner concludes his able article on "Zuckerausfuhrprämien und Brüsaler Vertrag," in Conrad's *Jahrbücher für Nationalökonomie und Statistik*, April, 1902, as follows: "Die Ausfuhrstaaten wird es aber nur dann vor einer Katastrophe bewahren und vor allmählichem stetigen Rückschritt ihres Rübenbaues und ihrer Landeskulter, wenn gleichzeitig die Thore des inneren Konsums soweit als möglich geöffnet werden, wenn die Verbrauchsabgabe weit unter ihr jetziges Mass in allen beteiligten Staaten herabgesetzt wird."

duction. They have, moreover, been almost constantly mixed up and more or less confused with the latter in economic and popular writing on the subject.

Almost every country which has had a refining industry has afforded it constant protection. A solitary exception is the case of England between the giving up of the sugar tax in 1874 and its reimposition in 1901. The protection has been afforded, in those countries which import raw sugar, by what is known in this country as the "differential"; that is, an import duty on refined sugar higher in proportion to value than that on raw sugar. The export of refined sugar has also at one time or another been favored by indirect or direct bounties in all countries having a refining industry of relative importance. This includes France, Germany, Austria, Holland, Belgium, England, and the United States. The history of the refined sugar bounties, indeed, reaches back as far as the middle of the seventeenth century, when a bounty was decreed in France. Until recent years the bounties on refined sugar were of much greater importance and attracted more attention than those on raw sugar exports. It was on account of the refined sugar bounties that the first International Sugar Conference, that of 1863, was called. On the expiration of the ten years' convention entered into at the conference of the next year, 1864, these bounties became the subject of several other conferences. It is only at the last three conferences, the London conference of 1888 and the Brussels conferences of 1898 and 1902, that the bounties on raw sugar have assumed the leading rôle on the programme. At these latter conferences alone have Germany and Austria, as well as France, England, Belgium, and Holland, been represented. The refined sugar bounties have been in the main indirect, and have arisen in the same way that the indirect raw sugar bounties arose; that is, by the payment of a drawback on exportation more than equivalent to the duty paid. Originating usu-

ally in a purely accidental manner from the difficulty of determining the saccharine quality of raw sugar with accuracy, they have afterwards been maintained for the encouragement of industry and through the influence of vested interests.

The refined sugar bounties have certainly had no small economic influence. They have contributed to the changes which have taken place in the geographical distribution of the refining industry, to the maintenance and growth of the industry in France, to its rise in recent years in Austria and Germany, to its stationary or declining condition in England and Belgium, and to that peculiar development by which Holland, once the centre of the sugar trade and sugar-refining industry of the world, and still a large possessor of sugar colonies, has become a refiner of Belgian, German, and domestic beet sugar, while the cane sugar of her colonies has practically ceased to be imported, but finds a market in England, America, and Australia.

Owing to the universal desire on the part of governments to pay all sugar bounties out of sugar revenue only, the bounties on raw and refined sugar are always indirectly related and in some measure dependent on one another — any increase of the one diminishing by so much the capacity of the government to pay the other. Where the government, for the protection of its fiscal interests, has resorted to the expedient of fixing a maximum total bounty, as in Austria since 1888, or a minimum net revenue, as in Belgium, the relation between the two classes of bounties becomes very close. Legislation giving rise to bounties on the export of refined sugar has, moreover, at times exercised an artificial influence on the processes of raw sugar manufacture. This was especially true of the legislation while the so-called "Dutch Standard of Color" was used for the classification of sugars. Towards the middle of the nineteenth century the old classification

into simply raw and refined sugar began to appear inadequate for the purposes of customs revenue administration. The method in use by merchants for the sale of colonial sugar in Holland was therefore adopted in most countries for taxing purposes. This method adopts color as the standard of purity of sugar, and takes a series of twenty types, running from number one, which is nearly black, to number twenty, which is pure white sugar. On the adoption of this system, efforts soon began to be made on the part of sugar makers to evade the tax by giving a dark color to comparatively rich sugar. Numerous means of artificial coloring were tried, with varying success. Before long it was discovered that by the application of extra heat in boiling down the syrup, so as to burn a small part of the sugar, a very dark sugar of high saccharine quality and value could be obtained. Such sugars could be imported at a low rate of duty, and, on being refined and exported, received a drawback higher than the duty paid. Thus arose most of the refined sugar bounties between 1840 and 1880, and the sugar legislation of this period is largely taken up with efforts to obviate this difficulty. This episode affected at first, for the most part, cane-sugar manufacture only. Domestic beet-sugar taxes were assessed on different principles. When beet sugar began to be exported, however, it came under the same provisions which applied to cane sugar on importation into another country. By 1880 the polariscope had been so generally adopted in Europe, either as the sole or as an auxiliary, method of ascertaining the quality of sugar, that since that date the legislation giving rise to the refined sugar bounties has had little or no direct influence on the processes of beet-sugar manufacture, although the Dutch standard difficulty continued to trouble the treasury department of the United States for several years.*

*See David A. Wells, "How Congress and the Public deal with a Great Revenue and Industrial Problem," *Princeton Review* of November 1, 1880.

C. The Raw Sugar Producers.

Coming now to the legislation directly affecting the production of raw beet sugar, the earliest encouragements took the form of prizes, gifts, and exemptions from taxation. These forms of aid are nearly confined to the infancy of the industry in each country. In the more important European countries they scarcely appear since the revival of the industry after the fall of Napoleon. In those countries, in and outside of Europe, where the sugar industry, or attempts to develop one, is of more recent date, they still play an important rôle. A more recent form of encouragement, closely allied to these, is the granting of especially favorable rates on the government railways, which have been granted, not only to the raw materials and the finished product of the sugar industry, but also to the agricultural laborers who migrate temporarily into the sugar-beet-growing regions. The most important of such movements of laborers is the annual migration from north-eastern Prussia and Silesia into the richest of the sugar-producing regions of Germany, the Province of Saxony, and known as the *Sachsengängerei*. Similar in nature to the favorable railway rates is the partial exemption from taxation granted to certain factories on account of unfavorable situation as related to the refining and exporting centres. This is the *taxe de distance* of the complicated French sugar legislation. It is obviously in the main of only local importance. Here should also, perhaps, be mentioned the shipping subsidies of various states, which tend, in some degree, to the reduction of the transport cost of sugar and other commodities.

From the first the beet-sugar industry has enjoyed the protection of import duties. This continued even after the introduction of the domestic taxes, the latter being in all cases originally very much lower in rate than the

import duties. The progress of the industry, and the consequent falling off of the revenues from import duties, led to successive elevations of the rate of the domestic tax; but a complete equalization of the two taxes occurred in no case before the industry had become able to supply practically the whole of the domestic consumption. The protection has indeed been maintained after that date, except in Holland. In an industry less subject to artificial conditions this continued maintenance of the protective import duties would usually be regarded as a mere form, having — aside from the case of monopoly of the domestic market — only local or temporary importance. In the case of the sugar industry, however, the existence of export bounties has preserved the importance of protective duties, even to the present time. Were it not for the higher tax on foreign sugar, German producers, aided by the bounty, might find it very profitable to send their sugar to France, while the French were at the same time sending theirs to Germany. Indeed, were the bounties high enough, nothing would prevent the producers of two countries from profitably swapping products entirely.

The import duties have acquired greatly increased importance during the last few years in consequence of the formation of monopolistic organizations in several countries for the control of the domestic market. The first of these organizations was the so-called "Normirofka" entered into by a majority of the Russian factories in 1887. The members of the organization pledged themselves to put on the Russian market only a certain part of their total product, the remainder to be exported or stored for future use. The quota for domestic sale, or "Norm," of each factory, was determined by taking the average production of the last five years and subtracting one-tenth. The immediate result of the formation of this combination was a rise of the price of sugar within the country from 2.90 to 4.0 rubles per pood, bringing a con-

siderable increase in the profits of the sugar producers. The export of sugar, on the other hand, was carried on at a loss, which increased as the prices in the world's markets continued to fall. This agreement continued in fairly successful operation for nearly eight years. In 1895 it was brought to a close, largely by the refusal of several newly erected factories to enter it. The government then came to the rescue, and undertook a strict control of the sale of sugar, following the general plan of the "Normirofka." That control has been continued, and forms the basis of the Russian export bounty. During the past few years similar monopolistic organizations have been formed in Austria and Germany. Under their influence the domestic prices have experienced a considerable rise, and the profits, at least of the refiners, been very much increased.

It is obvious that the operation of such artificial enhancing of the domestic prices by monopolistic organizations, or by government control, is closely similar to that of a bounty on export. In both cases the exporter is enabled to sell at lower prices in the foreign market. In the one case the bounty passes through the hands of the government, being collected in the form of taxes and paid to the exporter. In the other case it is secured directly by those who control the domestic and export markets, the government lending its aid to the process by the establishment of protective import duties. The importance of these sugar "cartels" as affecting the international sugar trade was fully recognized at the recent sugar conference, and led to the insertion in the convention of the clause requiring the reduction of import duties to six francs.

Of far greater importance than the influence of protective import duties has been that exercised by the forms of taxation to which the domestic sugar has been subjected. The systems of legislation which have grown

up about the sugar industry in the several countries of Europe are as various and in most cases as complicated as could well be imagined. They follow, however, two general lines, although with considerable intermixture. There is first the system which goes directly at the finished product, subjecting the whole process of manufacture to minute supervision in order to prevent any sugar from escaping the tax. This is known in Germany as the *Fabrikatsteuer*, in France as the *régime de l'exercice*. The other system is that by which the tax is levied, not upon the finished product, but upon some form of the raw material of which it is produced or in accordance with some external indication of the amount of sugar produced by a given factory. There are three main forms: (1) The tax on the beets by weight as they come to the factory. This form of tax was in use in Germany until 1892. (2) A modification of this tax used in Austria until 1888 and in Russia until 1881 is the "lump sum," or *Pauschalirungsystem*. In this case the weighing of the beets is dispensed with; and an estimate of the amount of beets used is made, based upon the capacity of the machinery in use in each factory. (3) Another indirect method of taxation is that by which the beet juice is taken as the basis. This system has been applied chiefly in Belgium and Holland.

The direct method of taxation, or tax on the finished product with supervision of the manufacture, is theoretically the most just to all producing interests, and the most advantageous to the treasury. It aims to tax each pound of sugar of a given quality at the same rate, wherever or however produced. It confers no favor on one producer at the expense of another, and the government is sure of its revenue. Its chief faults are: (1) It is costly, requiring the maintenance of an army of supervising officers. (2) The government provisions for supervision usually present obstacles, often

of a serious character, to the adoption of changes in the methods of manufacture, and hence to improvement. The indirect methods of taxation, on the other hand, while each has its peculiar characteristics, are all directly opposed in general tendency to the direct method. They tend to favor the more efficient producer at the expense of the less efficient. They give a handicap in the race of competition, not in favor of the slowest, but of the fastest. If one manufacturer can extract more sugar than another from a given amount of beets or of beet juice, or can manipulate his machinery more rapidly, he not only gains the greater amount of sugar thus produced, but he is practically exempt from taxation on that amount. Accordingly, while these forms of taxation were originally contrived chiefly, if not wholly, in order to save expense in tax collection, they have in many cases been retained, in spite of serious fiscal difficulties, for the sake of the encouragement to improvement which they afford.

The nature of this encouragement, it is important to note, is different from that of protective duties. By protective duties an industry is shielded from foreign competition. It is given an opportunity, which it may or may not accept, to advance to a position which will enable it to compete with foreigners on equal terms. But there can hardly be said to be any special *stimulus* to such improvement. If there is an opportunity for improvement, there is also one for slovenliness and retrogression. Indeed, it has been frequently charged that protective duties have served to keep alive old processes and keep running old machinery which have been discarded elsewhere. Now the indirect forms of taxation of the beet-sugar industry afford a direct stimulus to improvement. They give in themselves no protection against foreign producers, although, since with the progress of improvement they tend to become ever lighter, they will serve in the progress of time to accentuate any

protection which may be afforded by a difference between customs and excise duties. This, however, is of very slight importance. Primarily, the stimulus is to improvement in the industry itself. The beet grower is given an artificial inducement to produce as rich beets as possible. The manufacturer is induced to extract the last particle of sugar from his beets, or juice.

The operation of this stimulus is not the same in the case of all the taxes, nor is it solely a stimulus to improvement. The "lump-sum" tax encourages the adoption of any process of manufacture which serves to evade a part of the tax, whether this process constitutes really an improvement or not. The beet-juice tax affords a stimulus only to the extraction of as much sugar as possible from a given amount of juice, the extraction of the most possible juice from the beets and the production of rich beets being little or not at all encouraged.* All of these tax systems, moreover, induce the manufacturer to carry on his processes of sugar extraction beyond the point which would be, under normal conditions, profitable. This is especially disadvantageous on account of the uses to which the by-products are put, the pulp being weakened for cattle feeding without a corresponding gain, aside from the avoidance of taxes.

On the agricultural side the stimulus afforded by the beet tax in particular is scarcely that which would be desired. The inducement is not to the production of the most possible sugar, or even the greatest amount economically desirable, from a given area cultivated, but to the production of as much sugar as possible from a given weight of beets. The richness of the beets may be brought about simply at the expense of their size,— a result which

* Strictly speaking, there seems to be an encouragement of an indirect kind to the production of rich beets by the juice tax, since the juice of such beets yields most sugar. On the other hand, the extraction of the last drop of juice from the beet is rather discouraged because of the poorer quality of the last juice extracted.

is seen to a very marked degree in France since her adoption, in 1884, of a tax system practically identical in effects on the industry with the beet tax. A discrimination, which can hardly be regarded as advantageous, is brought about between different agricultural districts. Some soils and climates are naturally suited to the production of large beets of relatively low saccharine quality. Such soils are placed at an artificial disadvantage as compared with those which are suited to the production of small rich beets.

The influence of these forms of taxation upon the development of the industry has been most remarkable since the growth of the industry beyond the needs for domestic consumption. As soon as sugar began to be exported, demands were made for the repayment of the excise duties, in order that the exporter should not be at a disadvantage in his competition with foreigners. Such a drawback was, in most cases, readily granted. But it will at once be seen that, in order to pay back the duty, the yield in sugar of a given amount of beets or of juice, or the capacity of the machinery, must be determined. The government is obliged, if it does not wish to supervise strictly the whole process of manufacture, to fix upon an estimate of the yield of beets in sugar. A variety of forces contribute to the fixing of this "legal yield" below the actual. In the first place, the manufacturers themselves are alone likely to be thoroughly conversant with the processes of manufacture. Their knowledge must be largely relied upon, and their influence will tend to secure the placing of the yield as low as possible. As there is always considerable difference, moreover, in the efficiency of different factories, some of them will have a greater actual yield than others. The question at once arises, Which yield shall be taken as the legal one, the highest, the lowest, or the average? The government is evidently between the horns of a dilemma. If the lowest is taken,

most producers receive a bounty. If any above the lowest is taken, some producers are virtually subjected to an export tax. Where the question is one between an export bounty and an export duty, there has usually been little hesitancy in choosing the former.

But, even if the strength of fiscal motives is great enough to withstand these forces and secure the placing of the legal yield so high at any time as to preclude the payment of a bounty, the government has had another and yet stronger force to contend with, that of improvement in the processes of manufacture and in the methods of beet culture. If the government would prevent the appearance of a bounty, it must be continually on the alert, watching every new invention, and ready to change at any time the legal yield to meet new conditions of production. This the government can scarcely be expected to do, at least with promptness; and where, as is sometimes the case, the fixing of the legal yield and of the drawback is not left to administrative action, it has usually required a severe fiscal crisis or a strong agitation to bring the cumbrous machinery of legislation to bear upon the difficulty. The growth of the export bounty system is thus seen to be almost inevitable, if the industry shows itself capable of a more rapid growth than that of the domestic consumption. No other course than that maintained by the government of Sweden, steady refusal to pay drawbacks at all, would seem adequate to prevent the appearance of a bounty.

D. The Fiscal Interests of the Government.

The tendencies of the fiscal interests of the government are comparatively simple. However much they may have been, at one time or another, sacrificed to other interests, they have uniformly sought the attainment of a large and constant or increasing revenue. It was the

interests of the treasury which led to the first imposition of import duties, then to that of the domestic tax; and those interests have formed the chief influence tending to check the growth of the bounties. The fixing of minima for the sugar revenues or of maxima for the bounties, which several governments have resorted to for the protection of the fiscal interests, has had considerable effect on the sugar industry by causing the bounty to fluctuate from year to year, according as the export was large or small relatively to the internal consumption.

It would be impossible within the limits of the present article to discuss the actual operation of these several forms of taxation in all of the sugar-producing countries of Europe. As an illustration of their tendencies, and, especially, of the fiscal difficulties to be contended with, a brief sketch of the sugar tax and bounty in one country may be given. Austria-Hungary will serve our purpose best on account of the variety of tax measures and of expedients resorted to for the protection of the revenues. The taxation of the domestic product began in 1849 with a direct sugar tax. This was replaced in the next year by the beet tax, which, in turn, was modified in 1856 by the optional and in 1865 by the required determination of the amount of beets subject to taxation according to the capacity of the machinery for sugar extraction. This method, the *Pauschalirungsteuer*, was maintained, with numerous changes from time to time in the details of its administration, until the adoption of the tax on the finished product in 1888.

At the time of the adoption of the "estimated capacity" method, the Austrian sugar was just beginning to seek a foreign market. The sugar manufacturers were stimulated in their endeavors to evade the tax, which had been possible under the previous system also, by the prospect of an export bounty. Circumstances were much in their favor. The new process of sugar extraction by diffusion

had just been brought to successful experimental operation. As yet, however, in 1865–66, not one of the 140 factories in operation made use of this process. Ten years later there were 176 working with diffusion, and only 56 with presses. Even before this change of system in 1865 the beet tax had undoubtedly afforded very considerable advantages to the more efficient sugar producers, and thereby a stimulus to improvement in processes of manufacture and in the quality of beets. With the advent of the new system, however, the energies of the manufacturers were in large part turned in another direction; namely, to the evasion of the tax by the use of new processes not contemplated in the official estimates.

We have no means of knowing accurately how much the estimates of the government fell short of the actual yield of sugar. Until the adoption of the more accurate method of taxation in 1888, the Austrian government made a record only of the sugar taxed, and not, as was done in Germany, of the total produced. There is accordingly no way of knowing, except by rough estimates, the total production and consumption of sugar before that date. The growth of the payments for drawback from some 70,000 florins in 1863–64 to over 9.4 millions florins in 1875–76, in which year the drawback more than swallowed up the whole sugar revenue, affords a good indication of the extent of the underestimation. The only change in the direction of a check to this growth of the bounty was a slight reduction of drawback in 1868. In 1875, however, the government became thoroughly aroused; and the estimate for factories with diffusion was raised in rapid succession, from 180 to 222 in 1875, then to 370 in 1876, to 1,100 in 1878, and to 1,800 in 1879. The sugar makers were able, however, by substituting small for large diffusors, and by greatly increased rapidity of operation, to keep ahead even of these extraordinary changes. In some factories the actual capacity in

1879–80 was as high as 5,300, or about three times as great as the official estimate.* The drawback still continued to swallow up the whole or the greater part of the revenue.

In 1880–81 the government gave up the attempt to estimate the capacity of diffusors per day, and substituted an estimate according to the number of fillings with beets. But the manufacturers were not to be so easily thwarted. The energy which had formerly gone to increasing the rapidity of the diffusors by reducing their size now turned to the work of changing their form so as to increase their actual as opposed to their apparent and estimated capacity.† By a law of June 18, 1880, for each hectolitre of capacity in the diffusors, a weight of beets ranging from 40 to 87.5 was estimated, according to the size and nature of the machinery. In the next year this estimate was fixed at from 46 to 100 kilograms. According to private estimates the real capacity for the minimum was 50 or 55 in place of 40 in 1880–81 and 60 instead of 46 in 1881–82.‡ In 1882 a new invention brought a further saving of about 20 per cent. This was followed by an addition of only 9 per cent. to the official estimate for the factories using the invention.§ By a decree issued in 1885 a further general rise to from 50 to 109 took place.‖ The relation of the drawback affords sufficient indication that the producers were able to keep ahead of this change also. In addition to these measures for reducing the bounty, there was a reduction of the drawback in 1881 and an increase in the tax on the beets in 1880.

In the mean time the government had found more efficient means of protecting its fiscal interests. This was by the requirement of a minimum net yearly revenue from

*Julius Wolff, *Die Zuckersteuer, ihre Stellung im Steuersystem, ihre Erhebungsformen und finanziellen Ergebnisse*, Tübingen, 1882, p. 57.

†Wolff, op. cit., p. 93.

‡*Bulletin de Statistique*, vol. xxii. p. 542.

§Wolff, op. cit., p. 96.

‖*Finanzarchiv*, 1886, p. 41.

sugar. Should the payments for drawback bring the revenue below this sum, the difference was to be made up by repayments from the factories in proportion to their (taxed) product. The minimum was fixed at 6 millions of florins for 1878–79, and 6.5 for 1879–80. It was then increased for the next year to 10 millions, and was to increase by 0.4 yearly until it reached 12.8 millions in 1887–88, when a new revision of the legislation was to be undertaken. This programme was, with slight modifications, carried out. The controlling factor in the determination of the drawbacks and bounty was not the original amount of the drawback, but the amount of these repayments. They were unnecessary in two years only. In other years they formed very considerable proportions of the net revenue; and in one year, in consequence of the original drawback having exceeded the gross revenue, the repayments were larger than the net revenue.

With the adoption of the tax on the finished product in 1888, this system of repayments continued to be the controlling factor in the situation, although it underwent a change of form. The new tax system dispensed with the drawback, as only sugar consumed within the country was subject to the tax. The indirect bounty, therefore, disappeared. The industry was here, as in Germany, however, granted a direct bounty. This varied from 1.5 florins to 2.3 florins according to the quality of the sugar. But the maximum of payments for the bounty was fixed at 5 millions, and very considerable repayments have been yearly necessary to bring them down to this amount. In 1896 Austria-Hungary joined in the general movement for an increase of bounties which Germany in that year started. The increase was made, not by changing the original rate of the bounties, which alone would have had for effect only to increase the amounts of the repayments, but by raising the maximum from 5 to 9 million florins. We have, therefore, the curious spectacle of the govern-

ment for more than twenty years annually paying out enormous sums for drawbacks and bounties, and then proceeding to re-collect from the sugar producers large proportions of these sums. The system had the obvious advantage down to 1888 of making the amount of net revenue which the government could count upon definitely known beforehand. It might be more, but it could not be less than the required minimum. The drawback bounty, on the other hand, varied from season to season according to the proportion of the domestic consumption to the export. An increase in the proportion of export would lower the rate of the drawback bounty, and *vice versa*. There was, consequently, an inducement to increase the domestic consumption, in order to increase the profitableness of the export. The limitation of revenue was, moreover, so arranged, whether intentionally or not, as to afford the largest rate of bounty when the industry most needed it. Bad harvests or other unfavorable conditions would reduce the amount of product. If this reduction were general, the result of similar conditions in other countries, there would be at least partial compensation to the producers in the resulting rise of price. But, if Austria alone were affected, then the rise of prices could scarcely be so great. In that case, however, there would be less reduction of the domestic consumption, the proportion of export to consumption would decline, bringing, as already seen, an increase in the rate of the drawback bounty.

The new system, in operation since 1888, lacks several of these advantages. There is a maximum limit to the payments for bounty, but no direct minimum limit to the revenues. So long as the maximum provision comes into operation, which has regularly been the case, the rate of the bounty varies from season to season. It varies, however, inversely to the amount of the exports, having no relation to the amount of the domestic consumption.

Both the old and the new systems have the disadvantage of leaving the rate of the bounty or drawback for the year uncertain until the end of the year. It is a constant subject for speculation, how much the original rate of the bounty may have to be reduced on account of excess payments. Such uncertainty, undoubtedly, serves to divert considerable portions of the bounty from the producers into the hands of speculators.

The sugar legislation has followed somewhat similar courses in all of the important producing countries of Europe except France. In Germany there was a beet tax and an indirect export bounty down to 1888. Then for a brief transition period there was a double system, a beet tax, much reduced in rate, added to a consumption tax (*Verbrauchsabgabe*) on the sugar itself, so far as consumed within the country. In 1892 the beet tax was entirely given up, and consequently the drawback and the indirect bounty disappeared. A direct bounty was introduced; but provision was made for its gradual reduction and final disappearance, and it was hoped that other countries would follow the example thus set of bounty reduction. The hope was not fulfilled, and a new crisis in the sugar industry led to an increase of the bounties in 1897. At the same time the German government endeavored to prevent an inordinate growth of the payments for bounty by limiting the total sugar production and the product of each factory. Any excess of the quota thus fixed for a factory must pay an additional tax equal to the export bounty (2.50 marks per 100 kilograms). New factories pay this tax on the whole of their product the first year, on one-half the second year, and do not receive a quota free from extra taxation until the third year. These provisions, although discouraging the establishment of new factories, tend rather to expansion on the part of those already established. Each factory tries to keep up its production at the highest point possible,

sometimes with a view rather to the quota for later years than on account of the present profitableness of the industry. For a factory to shut down for a year or to run short time during a dull season would obviously spoil its chances for the future. This attempt of Germany to limit the extension of the sugar industry is another form of remedy for the same fiscal difficulties which gave occasion to the establishment of a minimum revenue, and later of a maximum bounty, in Austria, and to the introduction of similar features into the legislation of Belgium, Holland, and France. Were the bounty repealed, there can be little doubt that the attempt to control the growth of the industry would be abandoned.

The method of control adopted by Germany seems essentially an imitation of that employed by Russia since the failure, already recounted, of the "Normirofka" in 1895. Russia had originally made use of a "lump-sum" tax similar to that of Austria, but in 1881 changed to the tax on the finished product. The change involved the disappearance of the indirect export bounties, which had grown to considerable proportions during the late '70's. The great increase of the world's sugar product during the next few years brought on a crisis in the Russian sugar industry. The government, accordingly, in 1885 introduced temporary direct export bounties. These bounties were not very satisfactory to the sugar interests, largely because of the requirement that they be paid back — except in the case of exports to Asia — to the treasury within four years, through the medium of additional taxes. They were therefore discontinued after 1886, except the non-reimbursable part, which continued until 1891. Since the latter date, Russia has not formally paid any bounties, although the manner in which she has controlled the production and sale of sugar within the country has been such as to afford advantages equivalent to a bounty on export.

Belgium has had from the outset a juice tax, which, from the beginning of net sugar exports, about 1860, has afforded an export bounty through the medium of the drawback. In order to prevent the inordinate growth of this bounty, the "legal yield" of sugar has been raised, by several stages, from 1,200 grams in 1843 to 1,900 in 1897. More important, however, has been the requirement of a minimum sugar revenue,— a feature which was introduced as early as 1849, and has continued to be of controlling importance in the determination of the bounty. In Holland a juice tax was also in use until 1897, when a consumption tax on sugar was introduced. In place of the indirect bounty afforded by the juice tax, a direct bounty has been granted. This bounty is granted as a fixed sum to be distributed annually among the producers and refiners in proportion to their production. The maximum was fixed at 3 millions florins for 1897–98 (of which 500,000 goes to the refiners and the remainder to the producers of raw sugar). The total is to be decreased gradually until it reaches 1,950,000 florins for 1905–06, at which point it is to remain.

In France the history of the legislation has been very different from that of the other countries. Down to 1884 the tax system, although nominally according to the juice extracted, was in reality one of comparatively strict supervision. It did not afford an export bounty on raw sugar, and the bounty which was long maintained on refined sugar appears to have been of no practical importance to the raw sugar producers. The result of this lack of legislative encouragement was seen in the comparative growth of the industry in France, Austria, and Germany after the export of sugar began. A net export of sugar from France began as early as 1869–70. The exports increased slowly until 1874, then decreased, until in 1880 there was an excess of imports over exports. During the same period the industries of Germany and Austria were in-

creasing with great rapidity. The French began to be seriously alarmed at this condition of affairs, and an agitation sprang up for governmental assistance to the industry. In response to this demand a reduction of the rate of taxation was carried out in 1881 in the hope of relieving the industry by increasing the demand for domestic consumption. The expected increase in consumption promptly took place, but was, unfortunately, largely covered by an increase of imports instead of an increase of the domestic product. Then in 1884 came a fundamental change of system. Supervision of the processes of production is retained, and careful account is taken of the percentage of sugar extracted from each ton of beets. The tax is imposed only on the sugar corresponding to a certain percentage (originally 6 per cent.). The excess of this percentage, if such excess is actually secured, is free from taxation. This system is essentially that of the beet tax formerly employed by Germany. It is extremely popular in France, and has been retained in principle, although undergoing numerous modifications of detail since its first introduction. It has undoubtedly brought about a remarkable transformation of the sugar industry of the country. Better methods of beet raising and of manufacture have been introduced, and the actual percentage of sugar secured on the average has been doubled. The transformation has not, however, been wholly desirable, the increase in sugar yield having been brought about, in part, at the expense of the yield of beets per hectare, which has declined; and also, in part, at the expense of the pulp, whose richness and consequent value for feeding purposes has been greatly lowered. A considerable indirect export bounty is afforded by this system. In 1897, however, as an answer to the revival of bounties by Germany, France introduced in addition a direct bounty. To cover the latter, an extra tax was imposed; and it was provided that, if the payments therefor

should exceed the proceeds of the extra tax, the excess should be recovered by reduction of the bounty for the succeeding year,— a provision which it has been necessary to apply every year.

IV. Bounty Abolition.— England's Attitude.

However glad the governments of Europe would be to abolish the bounties, there seems little prospect of their being able to do so by independent action. Mutual international jealousies and the insistence of the producing interests form obstacles apparently too great to be overcome. The only serious attempt in that direction was that made by Germany in 1891, which was a signal failure. The producing countries seem powerless to get rid of the incubus without external aid, and especially that of the chief European consumer of sugar, England. The London International Conference of 1888 led to no results, because England failed to ratify the convention. The Brussels Conference of 1898 adjourned without even formulating a convention, because England was not ready to take aggressive action. That the Brussels Conference of 1902 was brought to a successful conclusion was chiefly owing to the fact that England assumed a firm attitude. Whether the bounty-paying countries will ever be driven to abolish the system, it rests with England to decide.

The economic interests of Great Britain in regard to the sugar bounties may be briefly stated. Opposed to the system are the interests of the British refiners and of the British sugar-producing colonies. The former desire the repeal of the bounties on refined sugar, the latter of the bounties on raw sugar. In favor of the bounties of both kinds, or at least opposed to any definite action on the part of England against them, are the British jam and confectionery producers and the general consuming public. Of these interests, those of the refiners, although

formerly very important, have now assumed a subordinate position, owing to the decline of the refining industry of the country. In the years immediately after the repeal of the English sugar duties, in 1874, it was a question of preserving an important British manufacturing industry from destruction. At present the destruction has to a large extent already taken place, and the introduction of protective duties would doubtless tend to the creation of a new refining industry. But little aid would thereby be given to those who have lost on account of the bounties in the past. Much more important, at present, are the interests of the jam and confectionery trades, to whom cheap sugar is a great advantage.

The interests of the consumers have heretofore prevailed. The repeal of the sugar duties twenty-eight years ago was carried out in their interests, and only the financial pressure of the war has sufficed to cause their revival. The chief representative before the public of the consumers is the Cobden Club. It has steadily opposed any action by England tending to force the abolition of the bounties. Recently it has been appealed to by the leading French opponent of the bounty system, M. Yves Guyot, and asked to come out in opposition to the bounties. The whole system, he urges, is opposed to free trade, and ought, therefore, to be opposed by the followers of the great free trader, Cobden.* The reply of the club is that Cobden favored freedom of trade because it was advantageous, and not merely on theoretical grounds. The bounties are from a cosmopolitan point of view a curse, and ought to be abolished. The club would welcome their abolition by the efforts of the countries which pay them and suffer from them. "The Cobden Club, following the example of the illustrious man whose name it bears, has always held that free trade is to be secured by persuasion and argument, and not by retalia-

*See letters in the *Times*, January 27, February 13, and March 1, 1902.

tion or coercion." The remedy of countervailing duties would be worse than the disease, even if England were suffering from the disease, which she is not, but rather England's neighbors. There is "no reason why England should go out of her way to refuse a boon which the folly of Continental countries confers upon her."

Up to the present the views of the Cobden Club have on the whole prevailed. England has sent delegates to the conferences, she has at times talked of attacking the system of bounties; but she has as yet refrained from actually imposing countervailing duties to be paid by the British consumer. Public sentiment in England has, however, for a number of years past been moving away from the old ideals of free trade and colonial independence. The competition of Continental powers in the colonial field during the past eighteen or twenty years has done much to lead British sentiment to the acceptance of the ideals so ably set forth by Seeley in *The Expansion of England*. The comparison of colonies to fruit, which falls from the tree as soon as it becomes ripe, no longer holds sway. Its place has been taken by the idea of a British Imperial Zollverein, as a step towards closer political union between the mother country and her colonies.

As regards the sugar industry, the first definite action of government in the direction indicated was the imposition of countervailing duties on bounty-fed sugars imported into India. This action of the legislative council of British India was taken at the instance of the home government,* and apparently with a special view to the interests of the British colony of Mauritius. The refusal of the House of Commons, after a spirited debate, on June 15, 1899, by a vote of 293 to 152,—a majority, according to the *Times*, larger than the government could

*See the extracts from the correspondence on the subject, published by the *Economist*, May, 1899.

then command on a strict party vote,— to urge the disallowance of the Indian council's action is of considerable significance. There is, to be sure, a wide difference between the introduction of countervailing duties in India and the passing of similar legislation in England, although done by the same government and for the same object. One reason, no doubt, for the forcing of this legislation on India was to learn the attitude of English public sentiment on the question, and perhaps prepare the way for the adoption of similar measures in England. The war has brought a feeling of greater solidarity on the part of the colonies and the mother country, so that the passage in the near future of countervailing duties by Parliament, either in pursuance of the decision of the recent sugar conference or independently thereof, would be much less surprising than formerly. The new sugar duty, moreover, although passed for revenue purposes, renders the problem of protecting the West Indian planters an easier one. A simple remission of the duty on sugar from the English colonies would serve the same purpose as a countervailing duty on European sugar, and in all probability would be much easier to pass.

The attitude of England towards the sugar question must be looked at from the political as well as from the economic point of view. In the growing disposition to do something for the protection of the sugar colonies, one can see much more of the movement for imperial federation than of any change of opinion on purely economic questions. The sugar bounties appear to offer a good opportunity to England of showing what it would be possible for her to do for her colonies, were the mooted Zollverein an accomplished fact. English statesmen, who are supporting the movement for countervailing duties, keep but half an eye on the sugar colonies. They, no doubt, welcome the opportunity of relieving the economic distress of the latter. But they undoubtedly have chiefly in

mind the effect which may be produced, by the passing of such legislation by Parliament, on the public sentiment of Canada, South Africa, and Australia. On the occasion of the reintroduction of the sugar duty in England, two years ago, it was remarked that now a part of the bounties would go into the British treasury, and thus the Continental powers would help to support the war in South Africa. If the movement for countervailing duties prevails in England, British imperialism will have conferred a great boon upon the bounty-paying countries by supplying an efficient instrument for ridding them of an extremely troublesome problem.

CHARLES S. GRIFFIN.

TOKYO IMPERIAL UNIVERSITY.

THE SUGAR QUESTION IN THE UNITED STATES.

WITH the enactment of the tariff of 1890 the United States entered definitely on a policy of agricultural protection, especially in respect to sugar and wool, that looked to the ultimate supply of the home market by domestic production. The problem then presented by the sugar tariff — one purely of protection and revenue — has since been greatly complicated by the legacy to this country from the Spanish War of new responsibilities over important tropical sugar-producing areas. A colonial policy, as well as a tariff policy, is now involved in the sugar question.

Such complication, however, was not needed to render the problem difficult. There are three distinct classes of domestic sugar producers,— the cane planters of Louisiana, the beet factories of the West and the North, and the refiners,— with diverse, if not conflicting interests, each class demanding the highest possible protection for its own product. The cane-sugar planters, as a rule, place their product on the market raw, and sell it to the refiners. In the case of beet sugar, however, nearly the whole product outside of California is placed on the market by the factories already refined.* To the refiner, at once a buyer of raw sugar and a seller of refined, the

*The total production of beet sugar in 1899-1900 is given as 163,000,000 pounds, of which 115,000,000 pounds, or 70 per cent., was granulated, and 48,000,000 pounds, or 30 per cent., raw. In California nearly one-half (over 49 per cent.) of the total product was marketed raw and sold to refiners; but in the other States little more than 6 per cent. was unrefined. Twelfth Census, Report on Manufactures, Part III., p. 548. Compare Special Report on the Beet-sugar Industry of the United States (1898), p. 160.

The large output of raw sugar in California is doubtless due to the Spreckels investments in both the beet-sugar and the refining industry of that State.

duty on raw increases cost no less than the duty on refined enlarges the opportunity for profit. The cane-sugar producer desires a high duty on raw sugar, the beet-sugar producer a high duty on refined,* and the refiner a high differential between the two rates of duty. Opposed to these demands there is only the diffused interest of the consuming public, with no detailed knowledge concerning trade conditions or the inner workings of the tariff, and without organization, yet, when convinced of injustice, possessing irresistible strength and determination to right the wrong.

Fiscal as well as protectionist considerations have been important factors in determining the provisions of the sugar schedule. Sugar duties yield a large and comparatively certain revenue, and so offer an attractive opportunity to supply increased fiscal needs, in spite of the fact that part of the tax paid by consumers through higher prices is diverted from the treasury into the hands of producers. Indeed, protectionist feeling has been so pervasive† that even in tariffs framed primarily according to fiscal aims the so-called incidental protection afforded has been considered a merit rather than a necessary evil. Tariff reformers as well as protectionists have passed by coffee, an article produced only abroad, and levied on sugar the increased duties required. In England, on the contrary, coffee has been dutiable and sugar was free until war expenses made necessary in 1901 the imposition of a revenue duty also on sugar.

The last three tariff acts of the United States clearly reflect in their sugar provisions both fiscal conditions and the tariff views held by their framers. Thus the act of 1890, passed when there was a large treasury surplus that

* The fact that the beet-sugar product competes more or less actively with the output of refineries may cause a low differential to be preferred, provided that the duty on refined remains high.

† Report accompanying the Wilson bill, House Report No. 234, 53d Congress, 2d session, pp. 1, 6.

seemed a constant menace to the continuance of the protective system, admitted raw sugar free and provided for encouragement to domestic producers through a direct bounty. The need of increased revenue in 1894 led to the Wilson act, which, framed with little regard for protective effect, provided an ad valorem duty of 40 per cent. on all sugar imported, and an additional protective duty of one-eighth cent per pound on refined sugar. The Dingley act of 1897, while strongly protective like the McKinley act,* aimed to procure further increased revenue through higher rates on sugar levied in the form of graduated specific duties. In all three measures the sugar schedule was the product of the same fiscal and protectionist considerations that determined the general character of the legislation.

The tariff act of 1890 marked a new departure in the treatment of raw sugar. In earlier tariff legislation no inconsiderable protection had been afforded the Louisiana producers, incidentally or consciously; but the fact that the sugar industry of the whole country was localized in one-half of a single State operated strongly against the adoption of a vigorous policy of encouragement. The case was one in which there was little or no hope of the product becoming sufficient to supply the entire consumption of the country, and so, in the long run, resulting in reduced prices. The economic justification in the case of temporary "protection to young industries" was thus wanting. The political obstacle to the taxing of over 60,000,000 people for the benefit of a population of little more than half a million, without special organization, and controlling in Congress the representatives of but a single State, was of still greater force. The introduction of beet sugar, however, about the time that the McKinley bill was framed, made protection to raw sugar

* The first law, since the act of 1789, to declare expressly its protective purpose: "An Act To provide revenue for the Government and to encourage the industries of the United States."

a national instead of a sectional issue; for it gave promise of an ultimate domestic sugar product equal to the entire demand, and of a new industry that could be located in a broad belt of territory stretching from east to west across the United States.* In the act of 1890 a bounty to producers of raw sugar was accordingly granted for a definite period,—"on and after July first, eighteen hundred and ninety-one, and until July first, nineteen hundred and five,"—thus furnishing an apparently stable system of encouragement to the erection of new factories, and at the same time looking to the ultimate full growth of the industry. The purpose of the law, to build up an industry that would in time supply the entire consumption of sugar in this country, was not less new than the adoption of a bounty, instead of a duty, as the means to that end.

The protection accorded sugar under the McKinley act was slightly less than under the act of 1883. The duty under the old law was 1.96 cents per pound on sugar polarizing 89 degrees and 2.24 cents on 96-degree sugar. The bounty authorized by the law of 1890 was 1.75 cents on sugar testing from 80 to 90 degrees, and 2 cents on sugar testing 90 degrees or above. The conspicuous form of the protection granted, however, combined with its apparent permanence, exerted a marked effect on the domestic sugar industry.

In the cane-sugar industry, the transition then in progress from the old open-kettle to the vacuum-pan method of production was undoubtedly encouraged. During the crop year 1888–89, 57 per cent. of the total product in Louisiana consisted of vacuum-pan sugar. By 1890–91 the proportion had increased to 70 per cent. In 1893–

*Revision of the Tariff, Hearings before the Committee on Ways and Means, 51st Congress, 1st session (1889–90), pp. 645, 650, 651, 1098; House Report No. 1466, same session, pp. 14, 34; H. W. Wiley, The Sugar-beet Industry, Department Agriculture, Chemistry Bulletin No. 27 (1890), p. 169. Compare Special Report on the Beet-sugar Industry in the United States (1898), pp. 21–25.

94, the last crop on which the full bounty was paid, the relative importance of vacuum-pan sugar reached 88 per cent.*

The effect of the law in establishing the beet-sugar industry was even more important. From the production of 2,000 long tons during 1889–90, all in the State of California, and of 3,500 long tons in 1890–91, the industry has grown until a product of 163,000 long tons was reached during the season of 1901–02, contributed by ten different States. It is true that even with this large increase the total domestic production will probably fall below 20 per cent. of the consumption, and an enormous further expansion of the industry would be required to fulfil the expectations of the beet-sugar advocates in 1890. Nevertheless, the position of the beet-sugar producers has become exceedingly strong. The American Sugar Refining Company, while contesting with them the control of the Missouri River territory during the fall of 1901, acknowledged their strength by resorting to the most decisive movement in trust warfare,— the cutting of prices in the competitive territory far below those prevailing elsewhere.† The beet-sugar producers, moreover, partly perhaps through their organization in the American Beet Sugar Association,‡ have exerted powerful influence over Congressional legislation.

Heretofore the trust has shown itself jealous of any active competition that threatened to reduce prices. Its manipulation of prices throughout the beet territory in the fall of 1901 proved that the competition of the beet factories has come to be felt. Either a community of

* Statistics from Bouchereau's Louisiana Sugar Reports for the several years.

† Reciprocity with Cuba, Hearings before House Committee on Ways and Means, 57th Congress, 1st session (1902), pp. 239, 335; Cuban Sugar Sales, Hearings before Senate Committee on Relations with Cuba, same session, pp. 20–23, 47–51, 195–199, 219–223.

‡ Hearings, House Committee (1902), p. 170.

interest agreement (or, at least, understanding) with those producers, such as probably now exists with the independent refiners, or else the actual purchase of beet factories, seems the natural, if not a speedy, outcome of the conditions revealed by the rate war.

Countervailing Duties.

The act of 1890, as has been said, was the first that aimed to provide, through the introduction of the beet-sugar industry, a domestic sugar product sufficient to supply the entire consumption of this country; and it was the first to apply protection in the form of a bounty instead of a duty. It was also the first act that attempted to offset foreign protection through the imposition of special countervailing duties.

The achievement of Europe in transplanting the chief seat of sugar production from the tropics to the temperate zone is notable. It illustrates the enormous power of science and of law in determining the direction of industry; it magnifies the importance of the human elements of production — intelligence, labor, capital — in comparison with the physical elements. The European beet industry, through the careful experimental work required to make a successful fight against relatively adverse climatic conditions, has not only pursued the most scientific methods of intensive agriculture, but has contributed to the practice of sugar making vastly improved methods and machinery, which cane-sugar factories have been forced to adopt. The thirty years from 1870–71 to 1900–01 witnessed an increase in the beet-sugar crop from less than 1,000,000 metric tons to more than 6,000,000 metric tons. Of the total sugar production in 1870–71 beet sugar constituted less than 40 per cent. In 1882–83 for the first time the beet product exceeded the cane product, and except in 1885–86 and 1887–88 has contin-

uously maintained its lead. In 1900–01 beet sugar formed nearly two-thirds of the world's crop.*

The policy followed by Continental countries of encouraging through bounties or excessive drawbacks the exportation of their domestic sugar met with a widely different reception in England and in the United States. England with its free-trade policy apparently welcomed at first the lower prices enjoyed by its citizens. The United States, on the contrary, naturally viewed with suspicion the gratuity of its foreign rivals. The protective policy seemed to require as its logical complement the nullification, so far as possible, of foreign protection.

During the fiscal year ending June 30, 1890, more than one-fifth of the sugar not above No. 16 Dutch standard imported into the United States consisted of beet sugar, as compared with only 2 per cent. in 1888. Public attention was thus called to the large stock of European beet sugar seeking foreign markets. The export bounties then given by Germany were 1.25 marks per 100 kilograms on raw sugar and 2 marks on refined sugar,— about 13.5 cents and 21.6 cents respectively per 100 pounds. In order to prevent the reduced protection afforded refined sugar under the McKinley act from being further decreased by the operation of foreign bounty laws, a special additional duty of one-tenth cent — intended doubtless to offset the difference in the German bounties between raw and refined sugar — was imposed on all sugar above No. 16 Dutch standard, the export or the product of a country paying a higher bounty on sugar of that grade than "on raw sugar of a lower saccharine strength." The countervailing duty was thus introduced in behalf of the refining interests, and operated to increase the differential granted by the regular tariff.

*The World's Sugar Production and Consumption, in *Monthly Summary of Commerce and Finance* (Bureau of Statistics, Treasury Department), January, 1902, pp. 2589–2590, 2758–2761. See also J. F. Crowell, The Sugar Situation in Europe (*Political Science Quarterly*, March, 1899).

The act of 1894 did not change the amount of the countervailing duty, but extended it, perhaps inadvertently, so as to apply to all sugar imported, raw as well as refined.* In 1896 the German export bounty was increased to 2.50 marks per 100 kilograms on raw sugar and 3.55 marks on refined,—about 27 cents and 38.8 cents respectively per 100 pounds. The doubling of the German export bounty, combined with the decreased Cuban supply, caused a remarkable increase in the importation of beet sugar into this country. In the fiscal year 1897 fully 40 per cent. of the enormous importations in anticipation of increased duties consisted of beet sugar, principally from Germany.

The Dingley act of 1897 went much further than the preceding tariffs. It attempted to nullify completely all foreign bounties by providing a special countervailing duty, to be fixed by the Secretary of the Treasury, equivalent in amount to any bounty or grant bestowed by any foreign country on any article. That provision at once called forth protests from Germany and Austria.† It has been interpreted so broadly that even a special privilege in the home market resulting from the exportation of sugar has been construed a bounty within the meaning of the act, notwithstanding the absence of any government grant. The imposition of a countervailing duty on Russian sugar, in line with this interpretation, but contrary to the contention of Russia that there is no payment of bounty, not unnaturally called forth retaliation.‡

The effect of the countervailing duties on prices is important. Theoretically, price is determined by the cost of

* Tariff Hearings before Committee on Ways and Means, 54th Congress, 2d session (1896–97), p. 642.

† Senate Documents Nos. 97, 141, 55th Congress, 1st session (1897).

‡ See Treasury Decisions, vol. iv., No. 17, April 25, 1901, pp. 13–27. No countervailing duty has been imposed to offset the German *Cartel*. See Hearings, House Committee (1902), pp. 549–553; Report of the Industrial Commission, vol. xviii., pp. 151–153; *Monthly Summary*, January, 1902, pp. 2601–2603.

the most expensive portion of the necessary supply. Unless some alternative, cheaper source of supply were available, sufficient in quantity to satisfy the whole demand, prices generally would be raised the entire amount of the duty. The presence of cheaper supplies, however, sufficient to render unnecessary resort to the product discriminated against, might prevent the rise of prices up to the maximum limit.

For foreign refined sugar recourse must be had to the European beet product. Under the act of 1894 about 85 per cent. of the imports above No. 16 Dutch standard consisted of beet sugar. A decrease in the imports of refined beet sugar occurred during the earlier years of the Dingley tariff, but was due to the abnormally low margin between raw and refined sugar prices in this country resulting from the refiners' war. The restoration of the one cent margin during the summer of 1900 was followed by increased imports of foreign refined, which came to the extent of nearly 90 per cent. from beet-producing countries, in spite of the high countervailing duty imposed by the Dingley act on bounty-fed sugar,— .383 cent in the case of German refined, besides the regular duty of 1.95 cents. The continued dependence on refined beet sugar, in the face of tariff discrimination, shows clearly the lack of any alternative supply of refined,* and leads to the conclusion that the price of such sugar, duty paid, is the sole limit to the prices of domestic refined imposed by foreign competition. It follows that the possible domestic price of refined sugar — the point below which foreign refined will not be freely imported — has been increased by the entire countervailing duty directed against the most expensive portion of the foreign supply that is needed for consumption in this country. When the actual prices for American granulated fall below that limit, the result must be credited to domestic competition.

* Aside from Chinese refined, imported to some extent on the Pacific coast.

In regard to raw sugar the effect of the discriminating duties is not so clear. Normally, cane sugar is sufficient in quantity to fill the domestic market, and thus fix a price independent of the countervailing duty. Thus, during the fiscal year 1898, at the beginning of which the market was well stocked, owing to the large anticipatory imports of the preceding year, only 5 per cent. of the total supply of sugar not above No. 16 Dutch standard had to be drawn from the beet-sugar product, only 1 per cent. prior to June, the last month of the fiscal year. During that year the New York price of 96-degree centrifugal ruled materially lower than the equivalent of Hamburg quotations for 88-analysis beet sugar with the countervailing duty added. The deficiency in the American market caused by the cessation of the Cuban supply was too great, however, to be filled completely and permanently by other cane sugar. Beet sugar was required to the extent of 18 per cent. of the total raw sugar imports in 1899 and 1900, and 19 per cent. in 1901. During those years the New York price fully equalled the Hamburg price with the countervailing duty added. The recent increase in the Cuban supply has now rendered the importation of beet sugar less necessary. During 1902 less than 7 per cent. of the raw sugar imported was beet. The New York price has again ranged below the equivalent of the Hamburg price, sometimes, as on January 16 and March 6, 1902, by the full amount of the countervailing duty (.27 cent per pound).* The conclusion seems clear that the countervailing duty on refined sugar tends to raise by its full amount the domestic price of refined sugar; that the countervailing on raw, when there is a full crop of cane sugar, does not correspondingly increase the domestic price of raw sugar; but that, since the passage of the present tariff, owing to the unusual scarcity of cane sugar that resulted from the Cuban War, the duty

* Compare Hearings, House Committee (1902), p. 237.

has actually operated in general to raise the price of raw as well as of refined sugar, resort to bounty-fed sugar being necessary in both cases.*

The table given on the following pages shows the quarterly movement of prices in Hamburg and New York from 1892 to the present time.† The graphic representation of columns (d) and (e) on the accompanying diagram illustrates more clearly the movement referred to in the text. The gradual change of prices in New York about August, 1894, and July, 1897, indicates how tariff changes are discounted in advance by the trade.

The countervailing duties in this country have operated as a special incentive to the importation of cane sugar. The movement has, however, been retarded by the failure of the Cuban crops, the lack of an adequate alternative supply of cane sugar, and the continually increasing crops of beet sugar. Cuba, after the outbreak of the war, was superseded by Germany as our chief source of supply, and Germany, after the increased countervailing duties of the Dingley act, by Java. In 1901 Cuba became again the largest contributor to our markets. Hawaii perhaps gained the most largely by the dearth of the cane-sugar supply. With Cuba out of the market, Germany handicapped by the countervailing duty, and Java subject to heavy freight charges, the protection already accorded Hawaiian producers was increased by practically the entire amount of the countervailing duty. Their shipments increased from 263,000,000 pounds in 1892 to 431,000,000 in 1897 and 721,000,000 in 1902.

*Prices are raised by the countervailing duties imposed on the sugar *actually required*. The higher rates imposed, such as those on French sugar, about .8 cent per pound on raw and 1 cent on refined, have suspended importation, but have had no direct effect on prices.

† A similar table, covering part of the period, is given in Willett & Gray's *Weekly Statistical Sugar Trade Journal*, February 27, 1902, and reprinted, with fuller explanations, in appendix to speech of Hon. Chester I. Long, delivered in the House of Representatives on April 11, 1902. Both Hamburg and New York quotations are taken from the various issues of Willett & Gray.

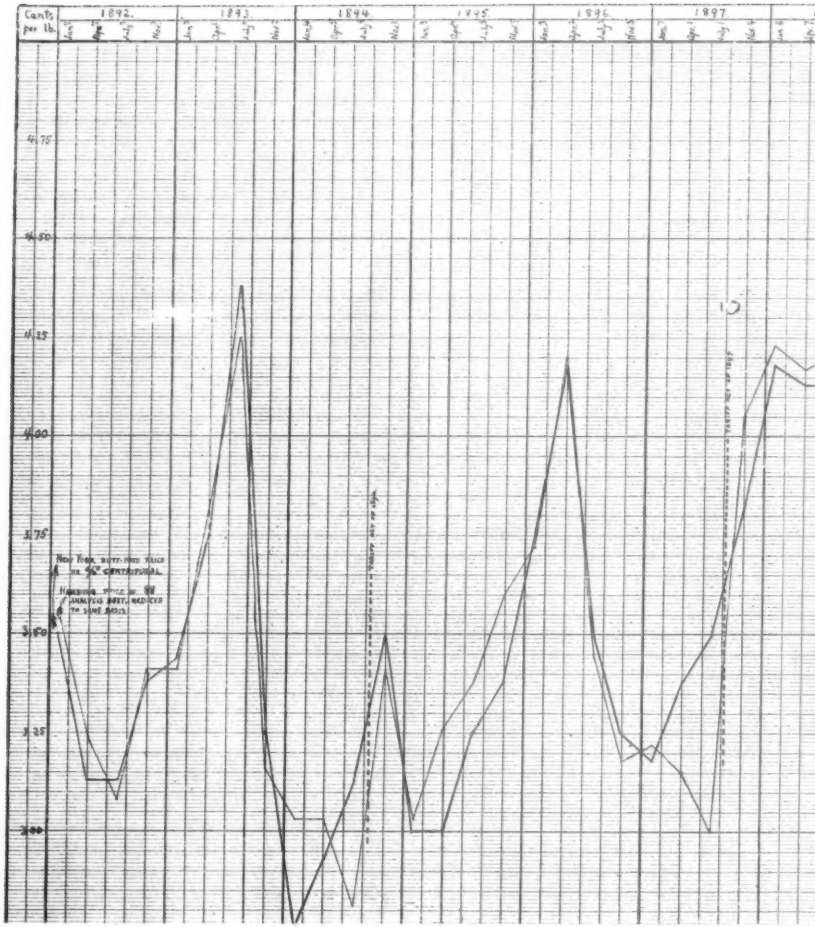
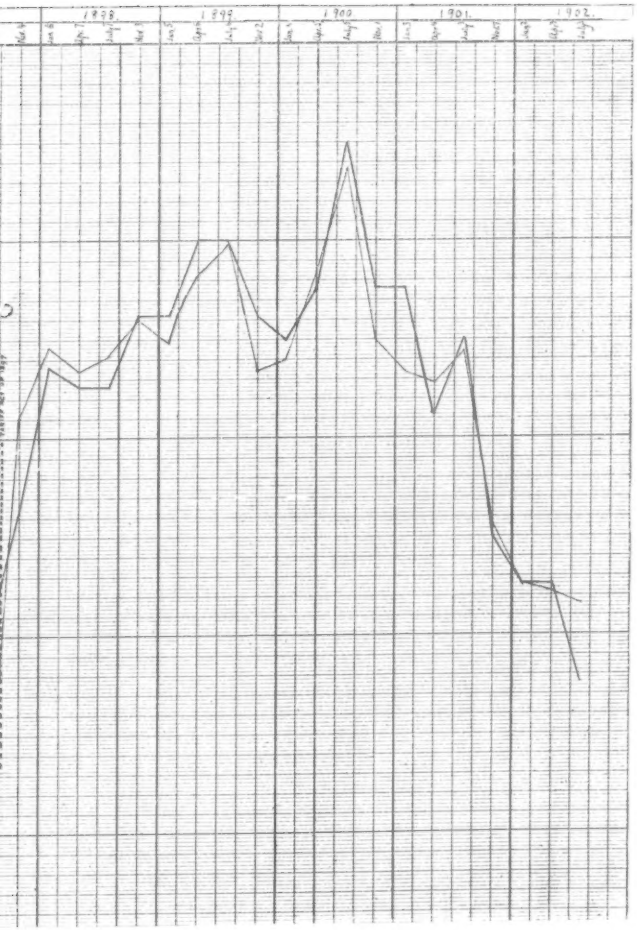


DIAGRAM I.— VARIATIONS OF NEW YORK PRICES O
COST OF GERMAN BEET SUGAR DELIVERED I



K PRICES OF SUGAR FROM THE
ELIVERED IN NEW YORK.

COMPARISON OF NEW YORK AND HAMBURG PRICES OF SUGAR, 1892–1902.

(a)	(b)		(c)	(d)	(e)	(e–d)
DATE.	88-analysis beet.				New York, duty paid, 96-degree centrifugal, per lb.	Excess of New York + or Hamburg —.
	Hamburg, f. o. b.			Reduced to parity with column (e).*		
	Per cwt.		Per lb.			
1892.	*s.*	*d.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January 7	14	10½	3.23	3.54	3.50	—.04
April 7	13	6	2.93	3.24	3.13	—.11
July 7	12	9	2.77	3.08	3.13	+.05
November 3†	14	3	3.10	3.41	3.38	—.03
1893.						
January 5	14	3	3.10	3.41	3.44	+.03
April 6	16	1½	3.50	3.81	3.75	—.06
July 6	18	1½	3.94	4.25	4.38	+.13
November 2	13	1½	2.85	3.16	3.25	+.09
1894.						
January 4	12	6	2.72	3.03	2.75	—.28
April 5	12	6	2.72	3.03	2.88	—.15
July 5	11	6	2.50	2.81	3.13	+.32
November 1	9	10½	2.15	3.41	3.50	+.09
1895.						
January 3	8	7½	1.87	3.03	3.00	—.03
April 4	9	4½	2.04	3.26	3.00	—.26
July 5	9	9	2.12	3.38	3.25	—.13
November 7	10	6	2.28	3.60	3.38	—.22
1896.						
January 3	10	10½	2.36	3.72	3.75	+.03
April 2	12	6	2.72	4.21	4.18	—.03
July 2	10	0	2.17	3.45	3.50	+.05
November 5	9	1½	1.98	3.18	3.25	+.07

* Obtained by adding to column (c) .11 cent for freight, insurance, etc.; .2 cent for commercial difference in value between 88-analysis beet (average polarization, 94 degrees) and 96-degree centrifugal sugar; the regular duty (40 per cent. of column (c) from August 27, 1894, to July 24, 1897, and 1.62 cents since that date); and the countervailing duty (.1 cent from August 27, 1894, to July 24, 1897, and .27 cent since that date). The total difference between columns (c) and (d) is thus .31 cent prior to August 27, 1894, .41 cent plus 40 per cent. of column (c) from August 27, 1894, to July 24, 1897, and 2.2 cents since that date.

† To avoid merely nominal quotations, the first week in November is taken instead of the first week in October.

COMPARISON OF NEW YORK AND HAMBURG PRICES OF SUGAR, 1892–1902.
Continued.

(a)	(b)		(c)	(d)	(e)	(e–d)
DATE.	88-analysis beet.					
	Hamburg, f. o. b.			Reduced to parity with column (e).*	New York, duty paid, 96-degree centrifugal, per lb.	Excess of New York + or Hamburg —.
	Per cwt.		Per lb.			
1897.	*s.*	*d.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January 7	9	3	2.01	3.22	3.18	—.04
April 1	9	0	1.96	3.15	3.38	+.23
July 1	8	6	1.85	3.00	3.50	+.50
November 4	8	6	1.85	4.05	3.81	—.24
1898.						
January 6	9	4½	2.04	4.24	4.18	—.06
April 7	9	0½	1.97	4.17	4.13	—.04
July 7	9	3	2.01	4.21	4.13	—.08
November 3	9	8½	2.10	4.30	4.31	+.01
1899.						
January 5	9	4½	2.04	4.24	4.31	+.07
April 6	10	2½	2.21	4.41	4.50	+.09
July 6	10	6½	2.29	4.49	4.50	+.01
November 2	9	0½	1.97	4.17	4.31	+.14
1900.						
January 4	9	2½	2.00	4.20	4.25	+.05
April 5	10	2½	2.21	4.41	4.38	—.03
July 5	11	5½	2.48	4.68	4.75	+.07
November 1	9	5½	2.05	4.25	4.38	+.13
1901.						
January 3	9	0½	1.97	4.17	4.38	+.21
April 4	8	11½	1.94	4.14	4.06	—.08
July 3	9	3½	2.02	4.22	4.25	+.03
November 7	7	3	1.58	3.78	3.75	—.03
1902.						
January 2	6	6	1.41	3.61	3.63	+.02
February 6	6	8½	1.45	3.65	3.69	+.04
March 6	6	6½	1.43	3.63	3.38	—.25
April 3	6	6	1.41	3.61	3.63	+.02
May 1	6	3	1.36	3.56	3.50	—.06
June 5	6	1½	1.33	3.53	3.44	—.09
July 3	5	11½	1.29	3.49	3.38	—.11

*See footnote on preceding page.

British statistics illustrate the other side of the movement. With no tariff discrimination between beet and cane sugar, it was natural that beet should be substituted for cane as far as possible, in order to permit the shipment to this country of the sugar not subject to the countervailing duty. In 1896 as in 1891, 25 per cent. of the total imports into the United Kingdom consisted of raw cane sugar. By 1901 the proportion had fallen to less than 10 per cent., and of that about one-half came from the British colonies. Refined beet sugar was imported in place of the cane sugar.

The Differential.

The extreme complexity that distinguishes the sugar schedule is especially in evidence when the protection to refining is considered. Even before the further complication of the problem by discriminating duties against bounty-aided foreign sugars and in favor of cane sugar from our insular dependencies, the accurate determination of the net protection afforded the refining interests seemed impossible. The so-called "differential" that measures this net protection is taken as the duty on one hundred pounds of refined sugar less the duty on sufficient raw sugar to produce that quantity of refined. How much raw sugar of various tests is lost in refining and what is the actual cost of refining are matters only of trade knowledge. In order to fix the drawback on exported sugar that is refined from foreign raw sugar, the Treasury Department has at different times drawn up tables, based on information furnished by refiners, showing the quantity of raw sugar at the various polariscopic tests required to produce one hundred pounds of refined.* While unavoidably colored, perhaps, to some extent in the interest of refiners, owing to the method of its prepara-

* Treasury Department, Circular No. 183 (1898). See also Senate Document No. 159, 55th Congress, 1st session (1897).

tion, the latest table corresponds closely enough to the actual facts to serve as a basis for estimating the differential under the various tariff acts.

The practical monopolization of information, both as to precise operation of the tariff and as to the methods and cost of refining, has given the refiners an overwhelming advantage in maintaining favorable tariff rates. This advantage, combined with strong organization and excellent lobbying facilities, has prevented any material reduction in the protection to refining, in spite of the strong public opposition to trust * production.

The absence of any large foreign supply of refined cane sugar leaves the maximum price of domestic refined limited only by the duty-paid price of imported beet sugar. The price of domestic refined may consequently, so far as foreign competition is concerned, be raised by the entire amount of the countervailing duty. The presence of sufficient raw cane sugar in full-crop years to supply the entire consumption in this country makes the domestic price of raw less directly affected by the countervailing duty imposed. It was accordingly argued in 1897 that the countervailing duty would operate to increase the differential on refined by .383 cent per pound,— the full countervailing duty on German refined. While such an effect is clearly possible under the law, the temporary cessation of the Cuban supply has, until recently, prevented it from being generally realized. In the calculation of the differential given below, the countervailing on refined is included in every case, while the duty on raw is given both ways, with the countervailing included to show the lower limit to the differential and excluded to show the upper limit.

* The term "trust" is here used broadly to denote industrial combinations. It is to be observed that Mr. Havemeyer, in his testimony before the Senate Committee on Relations with Cuba, frequently refers to the American Sugar Refining Company as "the trust." See Hearings, Senate Committee (1902), p. 52.

From July 1, 1887, to March 31, 1891, the last four years under the act of 1883, the average test of imported sugar (exclusive of imports from Hawaii) was a little above 90 degrees. The average test under the acts of 1890 and 1894 cannot be ascertained. During the four fiscal years under the present tariff, 1898 to 1901, the average polariscopic test was 93½ degrees for sugar imported under the regular tariff, exclusive of Hawaiian and, since April 30, 1900, of Porto Rican sugar. The regular duties levied under the act of 1894 amounted on the average to .8 cent per pound on sugar not above No. 16 Dutch standard, and to 1.18 cent on sugar above that limit. It is assumed that the importations under the act of 1894 — from August 27, 1894, to July 24, 1897 — had an average polariscopic test of 93 degrees.

The following tabular statement, based on the data just given, shows the probable net advantage to refiners accruing under recent tariff acts: —

PROBABLE DIFFERENTIAL ON REFINING UNDER THE TARIFF ACTS OF 1883, 1890, 1894, and 1897.*

	Act of 1883.	*Act of 1890.*	*Act of 1894.*	*Act of 1897.*
(*a*) Duty on 100 pounds of sugar above No. 16 Dutch standard, including countervailing duty . .	$3.35	$0.60	$1.28	$2.33
Duty on 100 pounds of sugar not above No. 16 Dutch standard:				
(*b*) Including countervailing duty	$2.05	—	$0.90	$1.88
(*c*) Exclusive of countervailing duty			$0.80	$1.61
(*d*) Polariscopic test	91°	—	93°	93.5°
(*e*) Quantity of raw sugar, of the test indicated, required to produce 100 pounds of refined . . .	112.58	—	110.12	109.55

* Maple sugar and sugar imported from Hawaii and Porto Rico under special tariff exemptions are excluded. Under the act of 1883, only the period from July 1, 1887, to March 31, 1891, was used, and statistics for raw sugar relate to that not above No. 13 Dutch standard. The quantities given as required to produce 100 pounds of refined relate to raw cane sugar.

PROBABLE DIFFERENTIAL ON REFINING UNDER THE TARIFF ACTS OF 1883, 1890, 1894, and 1897.*— *Continued.*

		Act of 1883.	Act of 1890.	Act of 1894.	Act of 1897.
	Duty on quantity of raw required to produce 100 pounds of refined:				
(*be*)	Including countervailing duty on raw	$2.31	——	$0.99	$2.06
(*ce*)	Exclusive of countervailing duty on raw			$0.88	$1.76
	Differential on 100 pounds of refined:				
(*a*–*be*)	Including countervailing duty on raw and on refined . .	$1.04	$0.60	$0.29	$0.27
(*a*–*ce*)	Including countervailing duty on refined, but not on raw			$0.40	$0.57

Of the two rates of differential given for the acts of 1894 and 1897 the lower (that in which the countervailing duty on raw is included as well as that on refined) is believed to represent more closely the actual protection that has been accorded; the higher rate represents the possible protection in case of a cane-sugar product more than sufficient to supply the demand of this country.

A description has been given of the general effects of the countervailing duties imposed by the United States on sugar prices, on the composition of sugar imports into the United States and the United Kingdom, and on the differential protection to refining. The duties have had a further effect. Calling forth protests from Germany and Austria and retaliation by Russia, serving as a model for the imposition of similar duties for British India, cutting off to a large extent the American market from beet sugar, and probably influencing the United Kingdom in its stand against foreign bounties at the recent Brussels bounty conference, the countervailing duties of the United States have undoubtedly contributed largely to the abolition of the Continental bounty system on September 1, 1903, for which the governments represented in the conference have contracted.†

It seems probable, therefore, that the system of coun-

*See footnote on preceding page.

† Consular Reports, No. 260 (May, 1902), pp. 142–147.

tervailing duties will soon be rendered inoperative by the abolition of the Continental bounties that occasioned it. The resulting simplification of the sugar tariff, with the elimination of one source of hidden discrimination, is exceedingly desirable.

Territorial Expansion.

Another form of discrimination remains, however, which is bound up with the American colonial policy, and promises to become of increasing importance and increasing complexity.

Territorial expansion is more closely connected with the sugar trade than is commonly supposed. With regard to Hawaii the transition is clear from the old reciprocity treaty of 1875, through the intermediate stage of commercial occupation of the island by American capitalists investing in sugar plantations, to political annexation. With regard to the other dependencies the connection is not so obvious. Of our entire Cuban trade, which was suddenly interrupted by the outbreak of the war, sugar constituted over 60 per cent. during the years 1892–1896. Sugar, moreover, is now called on to pay the price for the guarantees against "entangling alliances" required from Cuba by the act of March 2, 1901,— the Platt amendment. It is by far the leading article of trade with Hawaii, Cuba, and Porto Rico, and ranks second only to manila hemp in our Philippine import trade.

Hawaiian Sugar.

The original purpose of the Hawaiian treaty was to obtain a coaling station in the Pacific. The heavy American investments in the islands that soon appeared became a stronger reason for maintaining the treaty. Opposition to the treaty, however, increased, particularly on the part of beet-sugar producers.* The danger of abrogation of the treaty led to strong efforts by the Hawaiian sugar pro-

*Tariff Hearings (1896-97), pp. 650, 673.

ducers to obtain annexation. The progress of events looking to the acquisition of the Spanish islands rendered easier the passage of the joint resolution of July 7, 1898, annexing the Hawaiian Islands to the United States.

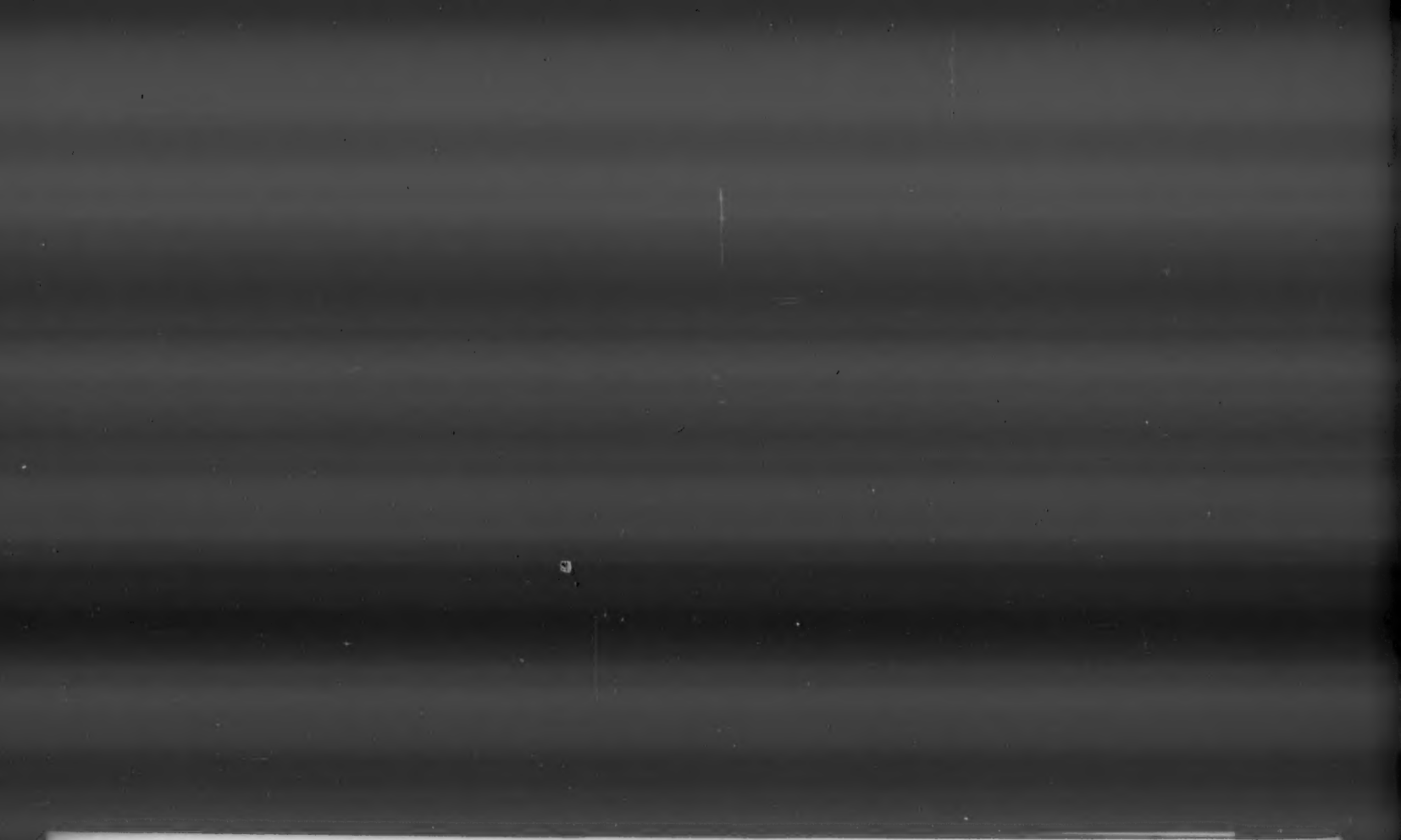
The economic effects of the reciprocity treaty with Hawaii are of peculiar importance, because the special advantage granted under it was the earliest, and, save for the countervailing duties, the only discrimination applied in the sugar tariff prior to the Spanish War.

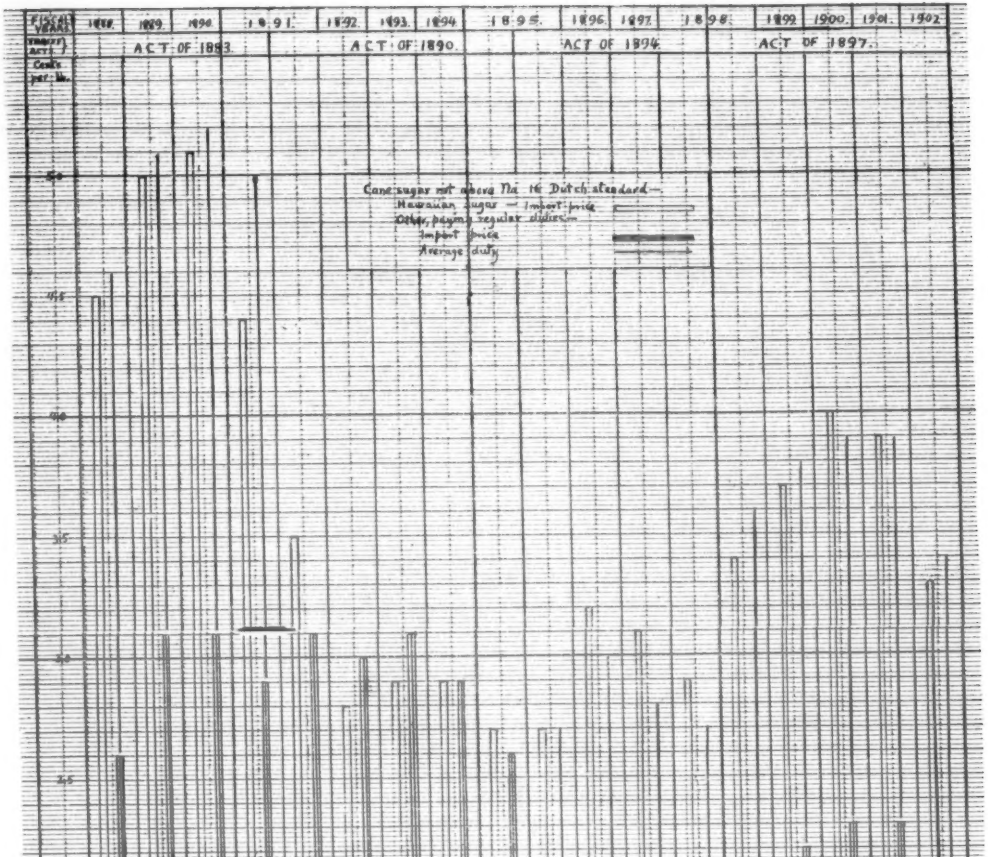
Some of the effects of the treaty are perfectly clear. There was an enormous expansion of the imports of sugar into this country from Hawaii and a large increase in the volume of the exports. In 1876 only 21,000,000 pounds of sugar were imported from Hawaii; in 1898, the last year under the treaty, 500,000,000 pounds; and in 1902 over 700,000,000 pounds,— a gain in the twenty-five years of more than thirty-fold. The entire export trade increased from $724,000 in 1876 to $5,800,000 in 1898. In none of the years after 1884, however,— except, of course, during the free-sugar period, 1891–1894,— did our entire domestic exports to Hawaii amount to as much as the duty remitted on the sugar imported. An estimate of the Treasury Department made some years ago * showed that the duties remitted on sugar under the reciprocity treaty prior to the act of 1890 reached over $50,000,000. The estimate there given of the amount remitted under the act of 1894 is probably too large,† but undoubtedly over $16,000,000 was remitted from the appeal of the McKinley act to the date of annexation.

The remission of the $66,000,000 of duties on the Hawaiian product, however, had no appreciable effect on

* *Monthly Summary*, May, 1898, p. 1807.

† In the Treasury estimate the duty was estimated at 40 per cent. of the import prices of Hawaiian sugar. But, as will be shown below, the Hawaiian prices were themselves raised by the amount of the duty remitted. The duty remitted must therefore be obtained by dividing the Hawaiian prices by 1.40 and then multiplying by 40 per cent.




FISCAL YEARS
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
TARIFF ACTS
ACT OF 1883
ACT OF 1890
ACT OF 1894
ACT OF 1897
Cents per lb.
Cane sugar not above No 16 Dutch standard—
Hawaiian sugar — Import price
Other paying regular duties—
Import price
Average duty

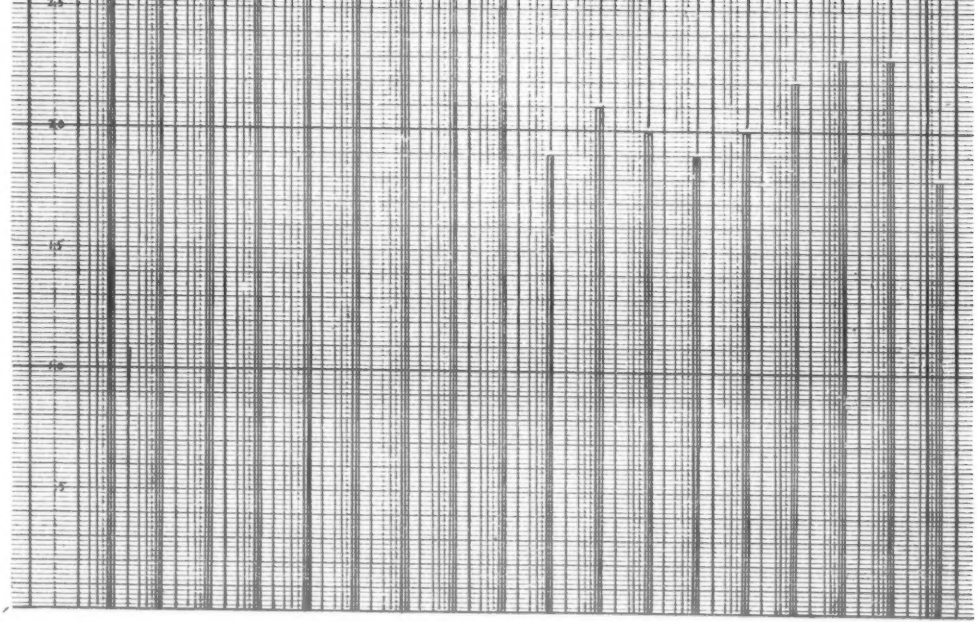


DIAGRAM II — IMPORT PRICES OF HAWAIIAN AND OTHER RAW CANE SUGAR.

prices in this country. It is the portion of the necessary supply produced under least favorable conditions that determines the price of the whole supply. Portions produced under specially favorable conditions, either natural or legal, so long as insufficient to supply the entire demand, do not directly lower the price, but provide a surplus profit over the marginal cost, measuring the special advantage enjoyed. The only possible effect of the reciprocity treaty in lowering prices is that, through increased production and importation into this market, it may have prevented resort to more expensive supplies than have been actually required. Of course, any increase in the supply tends in this way to lower the marginal price, and any decrease to raise it; but no such effect of the treaty has been shown, and, if present at all, is doubtless small compared with the loss in revenue through the operation of the treaty.

While the fact is generally recognized that the Hawaiian treaty tended to increase profits, and not to lower prices, it may be well to strengthen the argument by statistics showing the range of prices under the various tariff acts. See also Diagram II.

The close correspondence between the difference in favor of Hawaiian sugar and the duty to which other sugar is liable shows clearly that the amount remitted has not accrued to the consumer, but to the producer, to the shipper, or to the importer. Not only has the excess in price varied directly with the amount of duties, but it disappeared entirely under the McKinley act. That act, taking away for a time the legal stimulus to the Hawaiian industry is said to have resulted in the introduction of improved machinery and the adoption of more economical processes.* While undoubtedly more economical methods of production were made necessary, commercial statistics, both American and Hawaiian, show a marked decrease in

* Caspar Whitney, Hawaiian America, pp. 193, 194.

AVERAGE IMPORT PRICE OF HAWAIIAN AND OTHER CANE SUGAR NOT ABOVE NO. 16 DUTCH STANDARD, 1888–1902.*

[Cents per pound.]

FISCAL YEARS ENDING JUNE 30.	Average import price of		Difference in favor of Hawaiian.	Average regular duty.
	Hawaiian sugar.	Other.		
Act of 1883.				
1888	4.5	2.6	1.9	2.0
1889	5.0	3.0	2.0	2.0
1890	5.1	3.1	2.0	2.1
1891 (to March 31)	4.4	2.9	1.5	2.1
Act of 1890.				
1891 (April 1 to June 30)	3 5	3.1	.4	—
1892	2 8	3.0	–.2	—
1893	2.9	3.1	–.2	—
1894	2 9	2.9	—	—
1895 (to August 27, 1894)	2.7	2.6	.1	—
Act of 1894.				
1895 (after August 27, 1894)	2 7	1.9	.8	.8
1896	3.2	2.1	1.1	.9
1897	3.1	2.0	1.1	.8
1898 (July, 1897)	2.9	1.9	1.0	.8
Act of 1897.				
1898 (August, 1897, to June)	3.4	2.0	1.4	1.6
1899	3.7	2.2	1.5	1.6
1900	4.0	†2.3	1.7	1.6
1901	3.9	†2.3	1.6	1.6
1902	3.3	†1.8	1.5	1.6

the importation of machinery after the McKinley act went into effect. Industrial depression may lead in the end to the use of larger capital, but its immediate effect is in the opposite direction. With the withdrawal of a special incentive, the tendency is to stop sinking new capital,

* The average import prices given in this table and that on page 68 represent the values at the ports of shipment, and are obtained by dividing the total quantity into the declared value of the sugar imported, as officially recorded by the Treasury Department. The average duty is similarly obtained by dividing the quantity of the dutiable imports for consumption into the duties actually collected.

† Exclusive of Porto Rican after April, 1900.

but to increase production as far as possible by other means,—by more careful methods rather than by more expensive machinery.

The opportunity for special gain has led to enormous investments by Americans in Hawaiian sugar lands. Much of the production is carried on by incorporated companies, whose stocks are regularly traded in both in Honolulu and San Francisco. United action is obtained through the Hawaiian Sugar Planters' Association. The sugar industry of Hawaii illustrates clearly the natural effects of uniting tropical fertility with American enterprise, aided by tariff exemption.

The withdrawal of special encouragement to the Hawaiian sugar industry under the McKinley act has not been sufficiently brought out in criticisms of the sugar bounty. The additional administrative expenses involved in paying the bounty amounted to $400,000* aside from the bounty itself. This cost, combined with the unusual form of the protection accorded, has seemed sufficient to prevent a second recourse to a bounty. It must be remembered, however, that the bounty not only afforded a conspicuous form of protection and one intended to continue for a definite period, but that by withdrawing protection from Hawaiian sugar it saved to American consumers, with no loss whatever to the treasury, the duty on a billion pounds of sugar,—equivalent to $20,000,000 at the rates under the act of 1883, or to $16,000,000 at the rates of the present tariff.

Porto Rican Sugar.

Free trade between this country and Porto Rico was originally recommended by President McKinley. The disastrous hurricane of 1899 and the loss of the Spanish market were urged as special reasons for immediate legis-

* Report, Commissioner of Internal Revenue, 1894, p. 194.

lation in aid of the Porto Rican industry. A hard fight was, however, made by the beet-sugar interests to prevent free trade. The opposition did not result from fear of immediate lower prices for the domestic product, but from fear that the law would serve as a precedent for similar legislation later in regard to the Philippines and Cuba.* It came to be generally felt in Congress, moreover, that it might be advantageous to test the constitutionality of a customs barrier between the United States and the dependencies. A bill was accordingly introduced providing for the collection of 25 per cent. of the regular duties on all goods shipped between the United States and Porto Rico, the duties thus collected on Porto Rican goods imported into the United States to be "used for the government and benefit of Puerto Rico." A most violent outcry was raised against the bill. The treatment of Porto Rico as foreign territory was declared to be opposed to precedent, inconsistent with our form of government, and unconstitutional. Congress yielded to the popular clamor so far as to reduce the rate to 15 per cent. of the regular duties, and to make the imposition of that duty terminate not later than March 1, 1902, or sooner, if an adequate system of insular revenue should be put into operation before that date. The 15 per cent. duties were actually removed on July 25, 1901, and trade between Porto Rico and the United States was assimilated to coastwise commerce.

The coffee industry received far greater injury than the sugar industry from the hurricane and from the loss of the Spanish market. Sugar was but little affected by the hurricane;† and its principal market had been, not in Spain, but in the United States.‡

*Puerto Rico, Hearings before Committee on Ways and Means, 56th Congress, 1st session (1900), p. 34.

†Puerto Rico Hearings, 56th Congress, 1st session, pp. 8, 51; House Report No. 249, same session, p. 2.

‡Frank H. Hitchcock, Trade of Puerto Rico, Department of Agriculture Foreign Markets Bulletin No. 13, p. 25.

It seems, therefore, rather unfortunate that coffee gained no direct benefit and sugar almost the whole benefit* from the reduction (and later the removal) of duties, which was hastened by the distress in the coffee industry. The assistance given took direction from the public sentiment in favor of free intercourse with our dependencies, and accordingly had no reference to varying industrial needs. The total duties collected during May and June, 1900, amounted to $135,000, of which $122,000 was paid on sugar. Thus, of the total duty remitted, $763,000, the sugar exporters saved $691,000, or over 90 per cent. From July 1, 1900, to July 25, 1901, the duties remitted were, on all articles, $2,540,000, and on sugar alone, $1,898,000, so that sugar enjoyed nearly 75 per cent. of the gain.

The remission of 85 per cent. of the regular duties on Porto Rican sugar, like the free admission of Hawaiian sugar, did not decrease the price in this country, but acted as a stimulus to the industry. Some stimulus might well be justified by the relatively backward condition of the Porto Rican industry, indicated by the large quantity of muscovado sugar produced. Under the Foraker act — from May 1, 1900, to July 25, 1901 — 84,000,000 pounds, or 43 per cent. of the total cane sugar imported into this country from Porto Rico, tested not above 90 degrees, and 111,000,000 pounds, or 57 per cent., above 90 degrees, that test representing very roughly the separation between muscovado (open-kettle) and centrifugal (vacuum-pan) sugars. The average test of the sugar imported from Porto Rico was only a little over 92 degrees. At that polarization the regular duty would be 1.545 cents per pound. Under the Foraker act the duty was reduced to about .2 cent (15 per cent. of the regular

* Partly in recognition of this gain the Porto Rican revenue law of 1901 wisely imposed an excise duty of 60 cents per gallon on rum. J. H. Hollander, Excise Taxation in Porto Rico, *Quarterly Journal of Economics*, vol. xvi. pp. 197, 198, 209.

duty), so that on the average 1.3 cents per pound was remitted.

The following table and Diagram III. show the comparative prices of Porto Rican and Cuban sugar for several years prior to the passage of the Foraker act, under that act, and under free trade with Porto Rico: —

AVERAGE IMPORT PRICE OF PORTO RICAN AND CUBAN SUGAR NOT ABOVE NO. 16 DUTCH STANDARD, 1895–1902.

[Cents per pound.]

FISCAL YEARS ENDING JUNE 30.	Average import price of		Difference in favor of		Average duty remitted on Porto Rican.
	Porto Rican sugar.	Cuban sugar.	Porto Rican sugar.	Cuban sugar.	
1895	1.8	2.2	—	.4	—
1896	2.1	2.2	—	.1	—
1897	1.8	2.1	—	.3	—
1898	1.9	2.2	—	.3	—
1899	2.3	2.5	—	.2	—
1900 (to April 30)	2.4	2.6	—	.2	—
Foraker Act.					
1900 (May–June)	3.8	2.6	1.2	—	1.3
1901	3.4	2.4	1.0	—	1.3
1902 (July, 1901)	3.5	2.3	1.2	—	1.3
Free Trade.					
1902 (August, 1901, to June)	3.2	1.8	1.4	—	1.5

The excess in the price of Cuban sugar, as long as full duties were enforced against Porto Rico, was due to the higher grade of the product in the larger island. The industry in Cuba is organized on a much larger scale than in Porto Rico. According to the Porto Rican census (1899)* the 345 mills in that island had an average capacity of little more than one-fifteenth and an aggregate capacity of little more than one-tenth that of the 207 Cuban factories. The Cuban product is nearly all cen-

*Page 155.

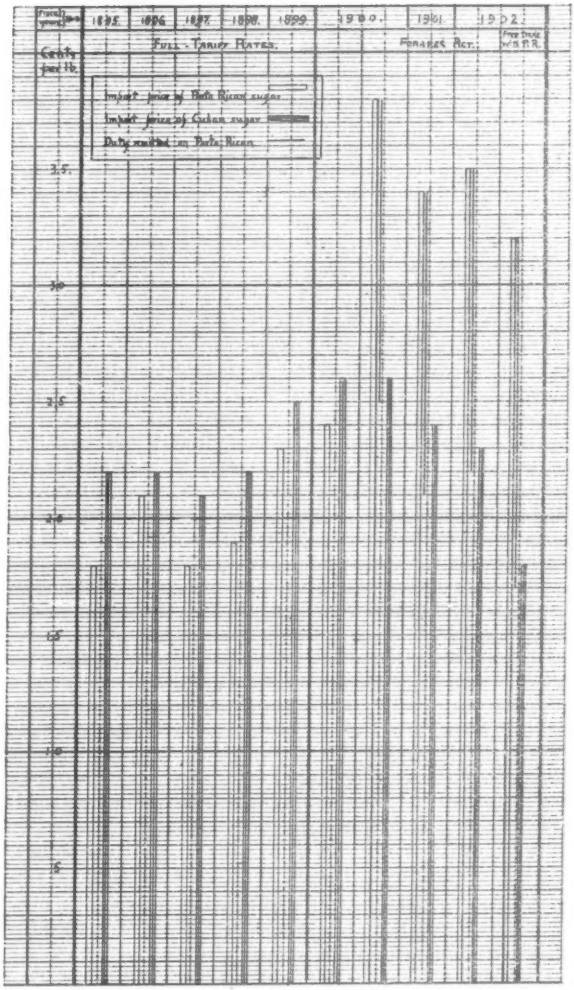


DIAGRAM III IMPORT PRICES OF PORTO RICAN AND CUBAN SUGAR

trifugal sugar. According to Willett & Gray's quotations the average difference in the New York prices of 89-degree muscovado and 96-degree centrifugal for 1899–1901 was one-half cent a pound. To obtain from commercial statistics the difference in value at the ports of shipment, the duties on the two grades and the cost of transportation must be deducted. The duty on 89-degree (muscovado) sugar is 1.44 cents and on 96-degree (centrifugal) 1.685 cents. The regular freight rate from San Juan has averaged about 16 cents, and from Havana about 9 cents. It may be assumed that 43 per cent. of the Porto Rican supply is muscovado. As the following tabular statement indicates, the average foreign value of Cuban sugar exceeded that of Porto Rico by about .18 cent per pound: —

	89° *Muscovado.* *Cents.*	96° *Centrifugal.* *Cents.*	
New York duty-paid price, average for 1899	3.92	4.42	
Duty	1.44	1.685	
	From Porto Rico. (43 *per cent.*)	*From Porto Rico.* (57 *per cent.*)	*From Cuba.* (100 *per cent.*)
Freight	.16	.16	.09
Hence cost at port of shipment	2.32	2.575	2.545
Same, weighted average	2.465		2.545
Difference in favor of Cuban			.18

Comparisons, similar in method, based on the average prices in New York during 1901 (for muscovado 3.53 cents, and for centrifugal 4.05 cents) show an excess of 1.15 cents, foreign valuation, in favor of Porto Rican sugar paying 15 per cent. of the regular duties over Cuban sugar at full duty, and of 1.39 cents in favor of Porto Rican sugar free of duty. The comparisons assume that the foreign price of sugar is the quoted New York price, duty paid, less the actual expenses (freight, duty, etc.) incurred in shipment to New York, and, therefore, that

the remission of a duty correspondingly increases the foreign price. They take into account differences in the grade of the sugar.

The differences * thus obtained correspond very closely with the differences in declared values shown in the table given on page 68, where .2 cent represents the difference in favor of Cuban sugar, while Porto Rican sugar was subject to the full Dingley rates; a little over 1 cent the difference in favor of Porto Rican, when 1.3 cents duty was remitted from such sugar; and 1.4 cents in favor of Porto Rican when the entire duty (1.5 cents) was removed. The increased relative price of Porto Rican sugar imported into this country, according to our import statistics, has thus been almost exactly equal to the duty remitted. It follows, as the statistics relating to the price of Hawaiian sugar also indicate, that a duty remitted on a portion of the supply does not result in cheaper prices, but in increased profits — to the producer, to the shipper, or to the importer.

While the purpose of the Foraker act was to remove obstacles to trade, its actual effect was not to reduce, but to impose a duty. The decision in the case of De Lima *v.* Bidwell, that from April 11, 1899, "Porto Rico was not a foreign country within the meaning of the tariff laws, but a territory of the United States," rendered the Dingley act inoperative so far as Porto Rico was concerned; and consequently all duties collected under that act were illegal, and had to be refunded. The Foraker act was at the same time declared constitutional by the accompanying decision (in the second insular case, Downes *v.* Bidwell), which held that Porto Rico is "not a part of the United States within the revenue clauses of the Constitution." That the period from April 11, 1899, to April 30, 1900, was one of free trade was not definitely

* .18 cent per pound in favor of Cuban sugar under the full Dingley rates, 1.15 cents in favor of Porto Rican under the Foraker act, and 1.39 cents in favor of Porto Rican under free trade with that island.

known until more than a year after its close; and hence the duty refunded could not affect domestic prices, and could benefit the shipper only in case of a special contract providing for the contingency. In any event no statistical indication of gain is possible, for returns were made on the assumption that the Dingley duties would be enforced.

Cuban Sugar.

From January, 1902, throughout the long session of the Fifty-seventh Congress, the question of reciprocity with Cuba was hotly contested. The controversy was no less violent because fought out chiefly in the committee-room, the caucus, and the lobby rather than upon the floor of Congress.

The demand for tariff reduction was not, as in the case of Porto Rico, based on a physical disaster, but on an economic cause directly affecting the cane industry,— a marked fall in the world price of sugar. The industrial well-being of the island, which depends to a marked degree on the prosperity of the sugar planters, was represented as in turn essential to the preservation of Cuba's independence. Reduced sugar duties were also favored as fair compensation for the obligations imposed by the Platt amendment. The personal influence, moreover, in favor of reciprocity — the strong desire of President McKinley, the advocacy of President Roosevelt, the conviction of the War Department, and the force of the administration leaders in Congress — seemed sufficient to guarantee the speedy adoption of that policy.

The agitation of beet-sugar leaders against Cuban reciprocity, however, developed unexpected strength. With their own industry the outgrowth of tariff legislation, they were in an excellent strategic position to withstand new legislation which threatened even remote danger to them. Hawaiian and Porto Rican free sugar was an

accomplished fact. Their partial success in postponing the adoption of absolute free trade with Porto Rico encouraged the beet-sugar advocates to even stronger efforts to prevent any further reduction of the sugar duties. The Cuban industry was far greater in magnitude; it contained the promise of large expansion; and it was not domestic, like the Hawaiian or the Porto Rican. An enormous increase in the production of sugar not liable to the full duties was feared, which might within a few years supply the whole market and through internal competition cause a reduction in price.

The chief point of attack by the opponents of Cuban reciprocity was the alleged interest of the sugar trust in the tariff reduction. It was generally known that American investments in the island were heavy.* The investors were naturally to a large extent already interested in the sugar industry; and several had had, and it was suspected still had, business connection with the American Refining Company. During the summer of 1901, when a new issue of that company's stock was recommended, Mr. Havemeyer was reported to have intimated in an interview that the purchase of sugar estates in our insular dependencies was contemplated. That interview, if authorized (as was virtually denied before the Senate Committee on Cuban Relations) † may have had reference only to Porto Rico, or may have been intended to divert attention from the real object of the issue. These facts, nevertheless, taken in connection with the advocacy of Cuban reciprocity by persons generally identified with the American Sugar Refining Company's interests, gave color to the contention that that corporation would gain largely from reduced duties. The policy of purchasing cane lands in Cuba seemed antecedently probable because of the large gains

* Hearings, House Committee (1902), pp. 11, 85, 343, 358.

† Hearings, Senate Committee (1902), p. 12; compare *Journal of Commerce* July 27, 1901.

obtained from the heavy investments of Western refiners in Hawaii. Much stress was laid by beet-sugar promoters on the new claim, advanced during the hearings,* that, owing to the stronger economic position of the refiner, the larger part of the duty remitted would go to him instead of to the producer. The planter, to get the advantage of a preferential duty, is limited to a single market. The refiner is not confined to any one country for his supply.

Although their own protection is measured by the duty on refined sugar, the beet-sugar interests, curiously enough, combined with the minority representatives in the House to amend the Cuban bill by cutting off the differential on refined sugar. This action was doubtless intended both as a challenge to the refiners and as an impediment to the bill that in the end would prevent its enactment. As amended, the bill passed the House of Representatives on April 18.

When the Cuban reciprocity bill reached the Senate, a comprehensive investigation was undertaken to ascertain the actual beneficiaries from reduced duties. The interests opposed to the bill were able, however, aided by the number and importance of other measures pending, to prevent any action being taken by the Senate.

Philippine Sugar.

Tariff legislation for the Philippines was made necessary by the decision of the Fourteen Diamond Ring case on December 2, 1901, in which it was held that the Philippine Islands, like Porto Rico, were not foreign within the meaning of the Dingley act, and hence that the duties imposed by that act were not applicable. On March 8, 1902, a bill imposing a duty of 25 per cent. less than the regular rates, with a further reduction equal to the export duty levied in the Philippines, was enacted with little or

* Hearings, House Committee (1902), pp. 169, 236-237, 303.

no opposition. At 84 degrees, said to be the average test of the Philippine sugar imported,* the regular Dingley duty is 1.265 cents per pound. The insular export duty is 5 cents per 100 kilograms, or .02 cent per pound. Hence the import duty on Philippine sugar is .93 cent, or .34 cent† less than the duty on foreign sugar of an equal grade. The backward nature of the sugar industry in the islands, their distance from this country, and the need of promoting intercourse, amply justify this comparatively slight advantage accorded Philippine sugar.

Effects of Tariff Exemption.

It should be clearly recognized that each tariff discrimination is an instance of protection to insular industry, and, so long as part of the necessary supply is liable to a higher duty, diverts into private hands part of the tax paid by consumers in the form of higher prices. The question whether the producer or the refiner obtains this gain has recently come to the front. During the Porto Rican discussion it was generally assumed that the planter would gain the duty remitted. The beet-sugar witnesses took the new position, during the Cuban agitation, that the American refining interests gain not only through practical ownership of insular plantations and factories, sometimes even when nominal ownership is vested elsewhere, but in all cases through control of the market. The preferential necessitates marketing the crop in this country. Unity of action on the part of the purchasers might materially lower the price in such cases. Mr. Havemeyer, before the Senate committee,‡ admitted a possible reduction of one-sixteenth of a cent from that cause.

The portion of the Hawaiian crop not required by the

* Willett & Gray, March 13, 1902.

† More precisely, $.339 = 1.265 - (25\% \times 1.265) - .023$.

‡ Hearings, Senate Committee (1902), p. 9.

Pacific coast is sold to the American Sugar Refining Company under a contract, the exact terms of which have not been disclosed. They are said to be the New York duty-paid price on the day preceding the arrival of the cargo.* It seems, however, unlikely that the Hawaiian sugar marketed in New York brings the full duty-paid price with no discount or rebate; for a contract to take the sugar at market prices whenever delivered would surrender the economic gain, frequently claimed for industrial combinations, of purchasing raw materials somewhat below regular rates by playing off one source of supply against another, and by taking advantage of temporary market conditions.

In their issue of October 27, 1898, Willett & Gray announced a sale of 5,000 tons of Hawaiian sugar to the Arbuckle refinery at the regular duty-paid price, and then remarked that previously, "on account of these sugars paying no duty, refiners have been accustomed to expect and sellers have been willing to make concessions of about ⅛ cent per pound." In the next week's issue a new contract between the American Sugar Refining Company and the Hawaiian producers was reported at a price "understood to be better for the planters than any previous contracts, and yet below the parity of centrifugals at the time of delivery." † The comment of Willett & Gray on the contract of 1900 was as follows: ‡ "This is an advan-

* Hearings, Senate Committee (1902), p. 66. For San Francisco deliveries the price is apparently 1/16 cent less than the New York price. *Louisiana Planter*, vol. xxviii. (1902), p. 39. See speech of Chester I. Long in the House of Representatives, April 11, 1902, where a difference of ⅛ cent is alleged. The difference between the New York and the San Francisco price is usually referred to lower ocean freights. Perhaps a more accurate explanation, which, however, comes to the same result, is as follows: The San Francisco market for raw sugar being limited and secondary to New York, the marginal value of sugar at San Francisco is the New York price, less the constructive cost of transportation there,—in practice less the difference in water carriage from Honolulu to New York and to San Francisco. Similarly, New Orleans prices during the active crop season range below New York by about the freight rate between the two points.

† Willett & Gray, November 3, 1898. ‡ Ibid. September 13, 1900.

tageous arrangement for the American Sugar Refining Company, and at the same time assures a market for the planters' product." It seems reasonably certain that the price obtained by the Hawaiian producers has been increased the amount of the duty remitted less a small discount.

Hawaiian producers, however, possess certain competitive advantages in dealing with American refiners not enjoyed to the same extent in the other dependencies. They produce on a large scale, they are united in the Hawaiian Sugar Planters' Association, and they control a refinery in California,* to which native sugar is shipped in a considerable amount. In Porto Rico conditions are entirely different. Production on a small scale is not uncommon, and planters possess no organization. Yet the evidence from import statistics and from commercial records of sales seems to indicate that the price of Porto Rican sugar has been raised approximately by the amount of the duty remitted.† While refiners enjoy a real competitive advantage over sellers under special tariff exemptions in not being confined to a single source of supply, that advantage is limited. The possibility of direct shipment by planters to New York, while not usually very advantageous,‡ remains. So also does the possibility of sale to independent refiners. The specially favored sugar possesses a higher value to the importer which can be claimed at least by the stronger producers, who are in a position to wait until market conditions become favorable.

Notwithstanding the strenuous efforts made to prove that Porto Rican planters failed to obtain the full benefit

*Hearings, Senate Committee (1902), pp. 52–53. Mr. Spreckels is likewise interested in a second (larger) refinery, as well as in the production of Hawaii cane and California beet sugar.

† Willett & Gray, March 6, 1902; Speech of Chester I. Long; S. A. Knapp, Agricultural Resources and Capabilities of Porto Rico (House Document No. 171, 56th Congress, 2d session), p. 15.

‡ Hearings, Senate Committee (1902), pp. 61, 84–85.

from the tariff reduction, no special instances were cited to offset those adduced to show that the commercial price was adequately increased. The omission is rendered more pronounced because the Porto Ricans seemed to be in sympathy with the beet-sugar producers in opposing the reduction of duties on Cuban sugar.*

Assuming that the value of sugar in the ports of Porto Rico has been increased by approximately the amount of the duties remitted, the question is still unsolved how far that increase is distributed among the actual producers. At every step in the process of marketing the crop there is an additional opportunity for gain to the middleman, varying inversely with the economic strength of the man with whom he deals. While no evidence is available on the subject, it seems not improbable that brokers and exporters, who are doubtlessly closely associated in interest with American importers, have profited largely from the improved market conditions.

In the case of Cuba there seems to be less danger than in Porto Rico of relatively large gains being obtained by dealers instead of producers. The much larger scale of production practised in Cuba strengthens the economic position of the producers. It is the commercial custom there, as well as in Louisiana, for central factories to pay for each ton of cane purchased the quoted price of a fixed quantity of sugar.† This method of payment tends to distribute any market advantage, even among the mere producers of cane (the colonios). The planter and the factory, according to some of the testimony, gain about equally from an increase in price.

* Hearings, House Committee (1902), pp. 522–523.

† Hearings, House Committee (1902), p. 356; Census of Cuba (1899), p. 526; Twelfth Census, Report on Agriculture, Part II., p. 457. On Porto Rican conditions, see Puerto Rico Hearings, 56th Congress, 1st session, pp. 15, 23; C. F. Saylor, Progress of the Beet-sugar Industry in 1898, p. 119.

Conclusion.

The question of Cuban reciprocity involves the whole commercial policy of the United States towards its dependencies. It is not the simple question that it is painted either by its advocates, as necessary to keep faith with Cuba, or by its opponents, as disregard of the vested interests of domestic producers. The case for reciprocity has recently been put very strongly and tersely.* Under the free-sugar provision of the McKinley act, Cuba was prosperous; by the repeal of that law, "Cuban sugar was shut out of the American market," and economic distress and the insurrection were the result. To remove the cause of the economic distress, it is argued, reciprocity must be re-established, in aid of which President McKinley promised his influence. The economic side of the argument is clearly at fault. The shipping price is not so much affected by the amount of the duty imposed — that directly increasing only domestic prices — as by its discriminating features, which operate either as handicap or stimulus to the industry of particular countries. Under the act of 1890 Cuban sugar was on the same footing as European beet sugar, and at a disadvantage of 2 cents (bounty) per pound compared with domestic sugar. Under the Dingley act Cuban sugar has an advantage of one-fourth — more precisely .27 — cent per pound over German beet sugar and a disadvantage of less than 1.7 cents compared with domestic sugar. The lower price obtained by Cuban shippers — 1.8 cents in 1902 as compared with 3.1 cents in 1892 — is the result of a general fall in sugar prices. The Hamburg prices of 88-analysis beet sugar show a still more marked decline,— from 3.2 cents on January 7, 1892, to 1.4 cents on January 2, 1902. Cuban sugar under the act of 1890 had no special advantage

* By William Allen White, Cuban Reciprocity — A Moral Issue, *McClure's Magazine*, September, 1902, pp. 387-394.

whatever in the American market; under the act of 1897 it has,— the countervailing duty,— and is at no disadvantage save with domestic and colonial sugar. American law can determine only relative prices and variations from the world price. It does not determine absolute prices except within the United States.

In the discussion the consumer's interest has been generally neglected. No moral solution of the difficulty can be reached without considering duly the effect on prices in this country. The consumer paid during the fiscal year 1902 increased prices on nearly five billion pounds of sugar, of which the duty on considerably more than one-third, amounting to $30,000,000, did not reach the treasury, but went into the hands of the Hawaiian, Louisianan, and Porto Rican planters and of the domestic beet-sugar producers. Hawaii especially, equipped with the best machinery and favored by climatic conditions, is scarcely in need of the full protection it enjoys. Porto Rico possesses a climate far better adapted to cane than that of Louisiana, and its planters do not need equal encouragement to insure the cultivation of sugar.

Some means should, if possible, be devised to lessen the contribution of consumers to the continued success of the American sugar industry in its various domestic and colonial branches. The encouragement of the Cuban industry offers a means — perhaps the most expedient, though not the most direct — to that end. The industry gives promise of steady and rapid growth. Such increase, augmented by the probable increase in other branches of the American industry, brings nearer than ever before the realization of the hope for sufficient sugar of American production to satisfy the entire consumption of the country. When the market in the United States is fully supplied with American sugar, prices will be lowered and the industry gradually localized where economic conditions are best suited to it.

This prospect of lower prices resulting from increased Cuban production was the chief cause of the beet-sugar opposition to reciprocity. The competition between tropical and domestic sugar will undoubtedly become a serious problem. The protection needed in the colonial and the domestic industries differs widely. If popular opinion continues to demand indiscriminately colonial free trade as a corollary to the policy of territorial expansion, the protective policy will become far more costly and difficult of application.

A different degree of protection to the industry in the various islands and in the United States, measuring as precisely as practicable the special adverse conditions affecting each, would minimize the national contribution to sugar production. Even if it should be decided to give up the attempt to cultivate sugar within our old boundaries, a high protective rate must be maintained for years to lessen the injury to the present producers during the transition. To apply the full protection to tropical industry is not only unnecessary and therefore uneconomical, but may foster an unnatural growth of the industry in the dependencies and give rise to vested interests that will complicate the problem in the future.

Fortunately, from a legal point of view Congress seems to be perfectly free to accord special treatment suited to the conditions prevailing in each colony. The insular decisions have declared that neither Porto Rico nor the Philippines form "a part of the United States within the revenue clauses of the Constitution."

There may of course be conclusive political objections to the two methods of granting different rates of protection,—to the retention of a high duty with only partial exemptions in favor of colonial sugar,* and to the substitution of a lower duty on foreign sugar, with free imports of colonial, and a bounty on the product within our former

* Limited in amount to the actual needs in each dependency.

limits. The political side of the problem is, however, outside of the field that I have attempted to cover.

The aim should be to upbuild the sugar industry and to modernize its methods. The problem is to economize the cost of the protection granted without injuring or unduly enriching the domestic or the colonial producers.

The United States, second to no nation in the introduction and use of improved machinery, and with dependencies possessing every climatic advantage, has before it wonderful possibilities in the upbuilding of a scientific cane-sugar industry in the tropics which shall utilize, adapt, and perfect the methods worked out by Germany for beet-sugar production. With European export bounties removed and American enterprise vitalizing the cane-sugar industry, the supremacy of beet-sugar may prove to have been but a temporary incident in the history of sugar.

FRANK R. RUTTER.

WASHINGTON, D.C.

RECENT TENDENCIES IN SOCIOLOGY. II.*

III.

Original Differences in Population.

To account for certain groupings, oppositions, and interactions by original differences in persons.†

The earlier sociologists were handicapped by their ignorance of the qualitative differences in a population. Comte ignores them entirely. Schäffle confesses: "The classification of population according to intellectual, æsthetic, and moral traits is difficult. These traits have not yet been sufficiently observed. We have, therefore, to leave at this point an unfillable gap." Mr. Spencer develops quite fully the differences — physical, emotional, and intellectual — between primitive men and the culture races; but a modern social population presents itself to him as relatively homogeneous. The differences he makes use of are not qualitative, but quantitative; *i.e.*, differences in degree of strength or ability or enlightenment. Even here he has not gone far enough to please all, and Mr. Mallock has formally impeached him for greatly undervaluing and understating the rôle of the exceptional man in social evolution.

Now the moment the sociologist undertakes "to explain social phenomena," he is staggered by the variety of reaction, the unlikeness of response to like stimulus, exhibited in a given group. Here are contrasts of devout

* Errata in first paper of this series: —
p. 545, line 30, for "helpless" read *helpful*.
p. 548, line 15, for "Pot" read *Post*.
p. 549, last line, for "compound" read *component*.
p. 559, line 28, for "riots" read *roots*.

† See appended bibliography, III.

with undevout, of back-lookers (traditionalists) with fore-lookers, of forth-faring with barnacles, of spenders with savers, of risk-lovers with risk-shunners, of sporting with Puritanic. Have these all been differentiated out of a homogeneous population by environment, circumstance, or training? Do men draw apart into conservatives and radicals solely from personal or class interest? Can we explain such oppositions as Cavalier and Roundhead, conformist and dissenter, stalwart and mugwump, in terms of surroundings? Are Salvationists and Presbyterians merely different forms of the same human material? Is it addiction to unlike activities that explains the contrast of bellicose and peace-loving?

This wealth of contrast the sociologist can lay to the differences of place and function in society only so long as he sticks to the panoramic. The moment he condescends to the details of the Here and Now he finds the method too simple. It is like undertaking to copy an elaborate picture in mosaic, with bits of stone of different sizes, but of the same color and shape.

It is easy to show that variety in the elements of a population enriches social life. Of all communities a mining settlement is, perhaps, the least interesting to a sociologist, because its characteristics reflect so faithfully the characteristics of its members. Now into this assemblage of men introduce an equal number of women. Soon we have new conventions — modesty, chivalry — and new institutions — marriage, law of domestic relations, the home. With the advent of children fresh complications arise,— age of consent, laws of inheritance, educational ideals and activities. Let there be added to the gold-seeking type the religious, artistic, and intellectual types in the form of evangelists, poets, painters, philosophers and scientists. At once you have a circle of new activities, interests, and interactions. If now you pile all this fabric on another and lower race,— say negroes or Chinese,

— you have a fresh growth of conventions and institutions governing the relations of the upper and the lower castes.

Now with every step in this process the whole takes on character of its own, and is less and less to be conceived as an average or a resultant of its parts. A social physiognomy appears, which derives not from the qualities of the population, but from the relations and interactions arising out of the contrasts of sex, age, type, and race it contains. The conventions and institutions generated by the sex difference or the race difference will be much the same, whether the persons are A's and B's in England or X's and Y's in Yucatan. To just this variety of materials in a society is due, perhaps, that profusion of forms which makes a social life rich and interesting.

Since social phenomena betray the interaction of unlike elements, it behooves us to examine the persistent differences in the individuals that compose a society. Population may look gray from a distance; but from near by it is seen to be made up of multi-colored particles, which, when grouped like with like, give rise to all manner of contrasts and effects. It is careful inspection and analysis of population that alone can enable the sociologist to cope with social reality.

The influence of certain sex contrasts upon early social development has been clearly set forth by Professor Thomas. He points out that females store up energy, while males expend energy. Hence the one sex is passive, the other active; the one is physiologically conservative, the other variative. From this fundamental contrast flow interesting consequences. The association that men develop has reference to food supply; and its features — such as mutual aid, division of labor, exchange, commerce — are but a veiled struggle making for toleration, but not for social sentiment. The latter originates in reproductive activities. The first group is not the family, but the mother and her children; and the first tribe is an aggregation of those

related by blood to a group of females. Humanitarian sentiments have developed upon maternal affection, and political organization upon the association of kindred. Since man's katabolism disposed him to exploit and violence while woman's anabolism disposed her to a stationary life, the primitive division of labor lay between the sexes, man taking to war and the chase, woman to agriculture and the house industries. This is why, as Professor Mason has shown, the development of the early arts and industries has been due to woman.

Male restlessness leads to exogamy, from which practice it results that a man must mate only with a woman of another group, while she stays in her own group and receives her husband as a guest. The children remain with the mother group, and thus arises the metronymic system of kinship and the metronymic clan. Patient research has uncovered traces of these in the culture of every civilized people.

While the maternal system veils male force without annulling it, it certainly procures for woman a higher status than the patriarchal system that succeeds. By blood brotherhood, secret societies, tribal marks, and religious dedications, men associate and seek to escape from the tyranny of the maternal system. But it is chronic warfare, which finally develops a strong organization of males, completely shatters the political influence of the female, and reduces her to a position of subjection until other factors than violence come to shape the relation of classes and sexes.

While *sex* is taking on a new significance for sociologists, there is also a tendency to connect social phenomena with *race*. Ferrero has sought to base important moral, industrial, and political contrasts between the societies of northern Europe and those of southern Europe on a difference between the fair and the dark peoples in point of sensuality. Going further, Ammon, Lapouge, Closson,

and Ripley, from extensive observations on head form, have distinguished three leading races in Europe, with unlike psychic characteristics attesting themselves in unlike social traits. At the moment the social psychologists are announcing, "*The nature of the unit derives from the characteristics of the whole,*" these "anthropo-sociologists" are declaring, "*The nature of the whole derives from the characteristics of its units.*" In a way both theses are true. Custom and convention are the lords of most individual lives, but race and environment are the lords of collective life. Granted that long-headed blond communities are bound to be Protestant, it is still safe to say of the average Norwegian that he is a Protestant because he was reared in Norway, and not in Portugal.

The anthropo-sociologists insist that communities of the long-headed blond race are more progressive, more prosperous, more migrant, and more individualistic than communities of the broad-headed brunets. Furthermore, in communities made up from both races the differentiation in respect to wealth and education, the stratification into classes, and the contrast between city and country will be more pronounced than in communities of either race.

Criminal sociology owes much to the labors of the anthropologists. A couple of centuries ago crime was charged up to personal deviltry. When the subjection of the human will to social conditions and influences began to be realized, thinkers went so far as to deem crime a purely social phenomenon. Criminals are "our failures." "Every society has the criminals it deserves." Lombroso and his school, by discovering among criminals a distinct human variety of an atavistic character, have caused the pendulum to swing back again. A good part of crime and pauperism we now lay to the presence of well-marked types that can be sorted out of the population by mere anthropometry. The effort of Lombroso to show that the genius differs from other men not so much in degree as in

kind and the endeavor of his pupil Nordau to lay certain contemporary æsthetic tendencies at the door of an abnormal human variety, the "degenerates," have been frowned upon by most of their scientific brethren.

Side by side with the anthropologist, busy with his distinctions of *sex*, *race*, and *anthropological type*, has worked the sociologist, clumsily endeavoring to do for himself what the psychologist ought to do for him; namely, to break up population into *psychological types*.

Thus Mr. Brooks Adams has sought to explain the course of European history by postulating different types of men needing different conditions for success. In the earlier stages of social evolution the energies of men are directed by Fear, which, stimulating the imagination, leads to supernatural religion and the rise of a priesthood. In this epoch of vivid imagination the dominant types are the religious, the military, and the artistic. As evolution proceeds, however, Fear dies away and Greed becomes the *primum mobile* in society. This throws into the seats of power the economic type of man, who prevails by money as the priest by incantations and the warrior by arms.

The Barbarians that overran the Roman Empire were ignorant; and, when their imaginations were quickened by Christian supernaturalism, the religious-ecstatic type seized the opportunity and founded the theocracy,— that is to say, the papacy. From the time of Hildebrand the clergy gained upon the laity, the religious upon the secular, and ecclesiastical property upon lay property. The early Crusades and the founding of the great military-religious orders mark the zenith of the emotional type. But in thriving commercial cities, like Venice and Genoa, there was growing up an economic type of man, sceptic and materialist, animated by Greed rather than by Fear, and putting his trust in money rather than in the promises of the priest. After the Crusades the rise of the towns, the spread of banking, the rapid accumulation of wealth, and

the appearance of centralized administrations supported by the florins of the *bourgeoisie* bring this kind of man to the fore. In the conduct of affairs the burgher displaces the religious and the martial types, and the civil state rises out of the decaying feudal system.

Mr. Adams regards the Reformation as an attempt of the economic type to get rid of all fees to middlemen, whether priests or saints, by becoming their own intercessors with the Deity. They substituted the Scriptures for an expensive priesthood, and to the "power of the Keys" asserted by the Church they opposed the doctrine of justification by faith. Thus he strides down the centuries, showing the growing prevalence of the economic type and the increasing mastery of capital over the course of events. "The salient characteristic of our age is the ascendency of the economic type of man." "Since the Crusades the imagination has slowly faded, until after the last great acceleration marked by the locomotive and electricity it has fallen into contempt." "The spark of faith has flickered so low that capital will no longer hire it even as the Stuarts hired it as an agent of police." "The artist has become the creature of a commercial market." Prose has completely supplanted poetry, "while the economic intellect has grown less tolerant of any departure from those representations of nature which have appealed to the most highly gifted of the moneyed type among successive generations. Hence the imperiousness of modern realism." Greek and Gothic architecture represented imaginative ideals, but since the Reformation "wealth is the form in which energy seeks expression; therefore since the close of the fifteenth century architecture has reflected money."

Piquant as this is, Mr. Adams has neglected to provide for his succession of types a well thought out basis. He does not make clear whether it takes place because the economic type survives while the emotional type starves,

or because commerce and industry transform men from one type into another type, or because the forces of the age elevate to the control of affairs at one time imaginative men and at another time calculating economic men. In this state of vagueness, Mr. Adams's theory cannot be taken as more than a brilliant suggestion.

Professor Patten paves the way for his interpretation of English history by resolving population into four types. The *clingers* are strongly attached to their birthplace, faithful to the customs of their fathers, and loath to migrate. They are born conservatives, never willing to relinquish what they have in order to grasp at a better. Cautious and dependent, they worship the great and swell the admiring retinue of those powerful enough to grant them protection. The *sensualists* are persons whose strong passions prompt them to break away from cramping local conditions in quest of a few dominant pleasures. Reared in a poor environment and insatiable in desire, they make their way into fertile settled regions as conquerors and exploiters. In a composite society they are the risk-takers and adventurers. From their ranks are recruited soldiers, explorers, prospectors, pioneers, and emigrants. They settle new lands, open routes of trade, and organize new industries, pressing ever to the perilous edge where great prizes glitter above great risks.

In a more advanced society appears an offshoot of the sensualists termed the *stalwarts*, from their fidelity to abstract principles. In religion the stalwart makes a fetich of creed, and prides himself on his orthodoxy. His morality is ascetic, a series of "thou shalt not's." In politics he is democratic and Utopian. In industry he is thrifty but not adventurous. The stalwart is a missionary for the cause he believes in, and, if able, crushes whom he cannot convert. He is independent and dislikes middlemen, whether in trade, in politics, or in religion. He is zealous for the Bible, the Constitution, the

moral law, but reads into them his own ideals. The Puritans, the Presbyterians, the Quakers, and later the liberals and the democrats exemplify the stalwart type.

Finally there develop among the leisured, salaried, and professional classes, who, unlike the masses, are shielded from the bitter struggle with external conditions, the *mugwumps*. These ruthlessly dissect and criticise the dogmas and ideals of the multitude, and hence, though few in numbers, exert at times a great influence. They are, in fact, stronger in criticism than in action; for they are too opinionated to act together and carry out a policy of their own. The mugwump is rationalist in opinion and cosmopolitan in sympathies. He dislikes ideals, dogmas, and utopias, and loves to expose sham and cant.

Of these types the first two are original and the last two evidently of later growth. Social history is made by the struggle of these types to impress their respective ideals upon national character. The outcome from age to age changes with the changing conditions of survival. An ultra-Darwinist, Professor Patten watches narrowly the vicissitudes in the food, clothing, housing, and habits of a people, in order to see what kind of man is surviving and what kind dying out. The beginnings of plenty in the Middle Ages decimated the sensualists, and the abstemious Puritan drew to the front by reason of his steady habits. But the indoor Puritans were too ascetic to look after their comfort, and consumption thinned them to the vanishing point. Their impress, however, remained. England adopted their domestic ideal, adding to it outdoor exercise and the bath-tub. "An unbathed Englishman is a sensualist. A bath turns him into a gentle optimist."

Professor Patten has analyzed population as a shrewd and observant field economist rather than as a psychologist of the schools. His classification may not be scientific, but it is practical; and for a first attempt it lights up

matters wonderfully. No student of social theory can afford to neglect it.

Professer Giddings posits four types of character,— the *forceful*, the *convivial*, the *austere*, and the *rationally conscientious*. The *forceful* are fearless, adventure-loving, and fond of athletic exploits, feats of arms, and dangerous occupations. Their amusements are drinking, wrestling, fencing, gambling, dancing, etc. Men of this type take to seafaring, fishery, mining, ranching, and the railroad, fire and police services. The *convivial* man takes to safe, commonplace, profitable occupations. His pleasures are of the sensory and emotional kind. He is *bon vivant*, gambles, frequents races, prize fights, and theatres, but does not care to engage in active sport. The *austere* type is represented by the Puritan and the reformer. Finally, we have the *rationally conscientious* man, who enjoys all pleasures temperately, and has intellectual and scientific tastes. His avocations are literature, art, science, and citizenship.

This classification follows that of Professor Patten save that the clingers are very properly merged with other types and the sensualists are broken up into the forceful and the convivial. Professor Giddings goes on to distinguish four types of intellect and four types of disposition. Uniting these, he undertakes to split up population into four types of mind,— the Ideo-motor, the Ideo-emotional, the Dogmatic-emotional, and the Critical-intellectual.

The lowest is forceful in character and instinctive in its activities. It has few ideas, and these are reached by perception and conjecture. The Ideo-emotional man is convivial, emotional, and suggestible. His intellect is imaginative, he gets his beliefs by suggestion, and he habitually reasons from superficial analogy. The Dogmatic-emotional type is Patten's stalwart. He is austere, domineering, and has fixed beliefs determined not from without, but by his emotions and temperament. He reasons de-

ductively from premises he has accepted on trust. The highest type, the Critical-intellectual, is marked by breadth and balance, clear perceptions, sound judgment, careful reasoning, and critical thinking. The disposition is creative, and the character rationally conscientious.

Professor Giddings has ventured to distribute the population of the United States among these classes, and finds that three per cent. are of the lowest type, and one and a half per cent. of the highest. The Ideo-emotional people are much over a quarter, the Dogmatic-emotional people a fifth, and a third of the population falls between the classes. He even locates the types of character. The forceful congregate about seaboard and lakeboard, in all the mountain regions, and on the great plains. The convivial predominate in the South. The austere are thickest in a broad belt reaching from New England to Iowa and Kansas. The rationally conscientious are found here and there in cities.

In all the foregoing Professor Giddings has simply raised psychology a story higher. But he goes on to exploit the meaning of it for sociology; and in so doing he has made, I think, a first-class contribution to the science. For he finds that the chief stages in social development answer to the predominance of one or another of these types. When people are mainly of the Ideo-emotional sort, their co-operation will be effected through sympathy and will be mobbish. Once mass action of this kind took the form of crusades, insurrections, and revolts. To-day it manifests itself in booms, panics, crazes, political landslides, sympathetic strikes, and revivals. Control of the individual by spontaneous collective action, such as common ridicule, boycotting, mobbing, and lynching, marks the sympathetic stage of social union.

When the Dogmatic-emotional folk abound, people act in concert not from sympathy, but in consequence of having the same beliefs. When a body of transmitted

beliefs is deeply stamped upon the minds of the young by means of authoritative instruction, we get a conservative society unified and held together by tradition. But it is always possible that new and enthralling dogmas, emanating from superior men and propagated by the zealous, may seize upon the vigorous dogmatic part of the population and draw it into a course of radical action. The prevalence of the dogmatic type in a community is attested by reform agitations of a fanatical sort, by strong partisanship, by deference to tradition and authority, and by reliance upon prohibitory legislation to regulate private conduct. Characteristic of the dogmatic stage of like-mindedness are definite legal rights, formal courts of justice, and political organization.

When the Critical-intellectual element becomes influential, concerted action rests upon deliberate agreement attained through criticism, argument, discussion, and constructive reasoning based upon inductive research. A constant amalgamation of critical judgments with tradition results in unifying tastes, faiths, creeds, standards, ideals, and values. The evidences of this stage are free criticism applied to religion, the development of inductive science, the existence of a scientific political economy, the reliance upon objective evidence in legal procedure, and the habit of free political discussion.

Professor Giddings has given us a spectrum of population as it is, not as it was born. For his schedules are elastic. Some people can and do pass upwards on the scale. Under the electrical action of enlightenment the human ox is acquiring nerves, the flabby emotionalist is becoming vertebrate, the hide-bound dogmatist is limbering up. The higher schedules are filling from the lower, and back of it all lies the ascent of the intellect. The stages in the evolution of the social mind depend on the mental make-up of the population; and this in turn depends on those influences — such as leisure, converse, instruction, discovery

— which develop individual minds. Giddings, then, agrees with Buckle that the tap-root of social progress is intellectual progress. He holds with Comte against Marx, and his "four modes of like-mindedness" is a good substitute for Comte's "three stages." At a time when his brethren are precipitately striking their colors to the economic materialists, he sturdily flies the flag of intellectualism. Rightly, too; for there is a movement of the human intellect which has nothing to do with economic facts. The increase of knowledge and the alteration of economic conditions are independent causes of social change. Both are needed, if our science is to move on an even keel. Let intellectualism and economism be the Urim and Thummim of the sociologist.

Ratzenhofer heeds only congenital differences, notes only the clay of human beings, and ignores the form this clay has taken on. This may commend his classification to anthropologists; but to us it means less, seeing that social phenomena depend on people as they are, and not on people as God made them.

Distinguishing in respect to individuality, vitality, sociality, and physical constitution, he forms nine classes. The first class comprises individuals of superior vigor, intellect, and morality. They are masterful, self-assertive, ambitious, optimistic people, eager to cope with difficulties and carve out a place for themselves. They cherish the family ideal, and are good parents. From this class issue intellectual leaders and captains of industry. The second class comprises the multitude of narrow, practical-minded people, animated by their private interest, but still able to co-operate with their fellows. What they can do depends on how they are led. Under superior guidance they are capable of great things; but, if badly led, they soon fall into confusion. The third class embraces the strong, noble, and self-sacrificing, the abler of whom are the moral leaders so long as society is in a healthy condition. They have

largeness of soul, and naturally champion the collective interest. The social welfare depends upon the number and influence of these public-spirited men.

So much for the normal people. The fourth class is composed of persons abnormally egoistic and actuated by greed, ambition, vanity, and malice. They are forceful persons, hard to influence, and dead to moral considerations. Tyrants and demagogues as well as the élite among criminals proceed from this class. From the fifth class, characterized by weakness of individuality and vitality, such men recruit their followers. Its members are selfish, unstable, and weak to resist temptation. Ordinarily, they are held in balance by the better element; but in troublous times they may furnish a dangerous support to the demagogue. A sixth class embraces men of strong individuality and impersonal aims, but lacking in vitality, poise, and common sense. Saints, martyrs, fanatics, ascetics, and other unpractical persons who offer themselves up for an idea represent this type.

The remaining classes comprise the various types of defectives and degenerates.

All manner of momentous social changes flow from changes in the relative size of these classes and from circumstances that give the upper hand now to the constructive and now to the subversive classes. Alternations of stagnation and progress, of vigor and feebleness, of order and anarchy, or of degeneration and regeneration, are the work neither of institutions nor of extraordinary individuals. They are due to the shifting balance between the normal and abnormal elements in the population. For the key to social vicissitudes we must seek among those obscure physiological factors which cause one kind of men to bloom and multiply while another kind perishes.

In view of the leadership of American thinkers in the classifying of population one may wonder if our society does not offer a rare opportunity for such study. In

central and eastern Europe it is not easy for the sociologist to read typal traits, obliterated as they often are by class traits and nationality traits. The individual is a palimpsest of which the earlier writing is undecipherable. In France provincial traits are obtrusive, and one distinguishes local rather than psychological types. But in the United States local types are slow to form. The class stamp is not yet deep. There are millions of individuals bearing the brand of no particular herd. Moreover, great bodies of immigrants are being denationalized. Here, then, if anywhere, is a chance to classify people by traits that antedate social influences and root in mental constitution and temperament.

IV.

Derivative Differences in Population.

*To show how well-marked types are created by place, work, social environment and institutions.**

While social conditions can be shown to flow partly from differences in the population, it is also true, though in a less degree, that diversities in the population can be shown to flow from social conditions, especially those of a fundamental character. Besides original contrasts in type there are derived differences, and recently there is a marked tendency to isolate and explain these derived differences. Mr. Spencer, in accounting for the moral contrast between the members of a militant society and those of industrial society by the contrast of their predominant activities, took a line that is now eagerly followed in the hope of throwing light on the baffling diversity of type and class.

Nowadays the time-honored appeal to race is more and more looked upon as the resource of ignorance or indolence. To the scholar the attributing of the mental and

* See appended bibliography, IV.

moral traits of a population to heredity is a confession of defeat, not to be thought of until he has wrung from every factor of life its last drop of explanation.

To Vignes and other sociologists of the Le Play school we owe a new way of accounting for local types. The appearance of local and provincial types in a once homogeneous population has always been credited to the environment. But the operation of the physical environment on character is no longer conceived to be so simple and direct as Guyot, Draper, and Buckle assumed. We do not take continents as unit areas of characterization. Religions are not traced to impressions from natural phenomena. The aspect of Nature plays no such rôle as Buckle assigns it. The newer view is that Nature determines Work and Reward. Work in turn fixes habits of life and prescribes the form of land tenure, domicile, family, inheritance, community. These fundamental institutions, acting in conjunction with the two primary factors, create distinctive aptitudes, modes of thinking, customs, prejudices, standards,— in a word, a type of character. The causal series, then, is longer than Montesquieu and Buckle thought, and more like a net of links than a simple chain. Environment is lord of life; but Work, Reward, and Tradition are his viziers.

Nor does one venture nowadays to connect the traits of a vast people with its present physical surroundings. It is only little peoples that can have a special and uniform environment. In the same nation there are a number of distinct *milieux*, each sculpturing the soul of its denizens in its own way. These create local types, but national types can be connected with Nature only by the mediation of such unifying and generalizing factors as tradition, assimilation, national culture, religion, law, or history. The larger and more diversified the area in which a certain set of traits prevails, the more our explanation must lean on race or tradition instead of physical environment.

France, highly diversified geographically and long inhabited by an extremely stable population, abounds in strongly marked local types. On these M. Demolins, the brightest intellect of the Le Play school, has written a book as charming as Dumas and as convincing as Euclid. Much as his "social geography" delights Frenchmen, its interest for us is in his method of accounting for local diversities,— in a word, his social causation.

Take the Auvergnat. Auvergne being a mountainous region, more suited to grazing than to farming, its inhabitants are occupied with stock-raising, especially the raising of fine beeves. The sale of his stock at the local fairs develops in the Auvergnat that peculiar skill in deceiving and bluffing we find in our "horse-trader." This shrewdness in getting the best of a bargain fits him to succeed in town, and stimulates a very lively migration from pastoral Auvergne to the centres of trade. These migrants take to peddling "old clothes" and all branches of the second-hand business, because in this petty commerce their Yankee-like "smartness" finds full scope. For that larger commerce that renounces the special bargain with each customer they have no talent: their peasant cunning does not avail them here. Even when the Auvergnat enters the higher walks, the practical spirit of a bargaining folk shows itself. The great men Auvergne has given to France have been lawyers, soldiers, statesmen, never writers, artists, or orators.

The tap-root of the Provençal type immortalized in Daudet's *Tartarin* is the cultivation of fruit-trees. In sunny Provence nature works almost unaided, and the farmer reduces to a gatherer of olives and almonds. Exempt from the heavy labors of the tiller of the soil, he becomes indolent and easy-going, a lover of leisure and siesta and converse. As the products of his orchards are important articles of export, we find improved ways, developed markets, and a taste for commerce. In fact, horticulture and commerce occupy the population.

Fruit-growing demands personal care rather than large capital and routine labor under skilled direction. It makes for small holdings and a diffused ownership. Hence the Provençals have never been feudalized, have never developed the social hierarchy that has moulded the Norman or English soul. It is their love of equality that has been the mainspring of French republicanism.

Where conditions demand hard work, the energetic refuse to be yoked with the lazy in a communal household. But, in Provence, life is easy; and so the family remains large and patriarchal. Leisure and communal life foster the gregarious spirit and favor habits of social intercourse. The Provençal is, therefore, sociable to the core; and the presence of others intoxicates him. He talks all the time, talks in a high voice in order to get a hearing, and habitually draws the long bow that he may attract the attention of his talkative fellows.

Petty horticulture permits agglomeration into towns, and so leads to an extraordinary development of public life. The lively municipal assemblies and agitations of Provence school the Provençals for success in French politics and administration just as the Celtic clan has trained the Irish for the capture of our city governments. A frothy, emotional eloquence, a capacity for prompt cohesion about a leader for the conquest of political spoils, and a belief in the omnipotence of the state,— all these Provençal aptitudes are traced to a mode of livelihood that exempts from hard work.

In Demolins's melting-pot that picturesque type, the Corsican, is resolved into a few simple elements. He is explained by two facts. His Work is Simple Collection,— *i.e.*, grazing and horticulture,— and his Place is neither mountain nor plain, but mountain penetrating and dominating the plain. Like all who live by tending and gathering, the Corsican disdains intense labor, and leaves tillage to immigrating Italians. When he leaves his isle, he passes by

domestic service, agriculture, industry, and commerce to edge his way into the army, the police, or the administration. Since life is not hard, the family community has not been disrupted; and the Corsican remains very sensitive to the ties of blood.

Shaggy mountains, rising abruptly from settled valleys, furnish an ideal refuge to law-breakers, who "take to the brush," and from there prey upon and terrorize the population. Brigandage in turn develops the clan, and the quarrels of individuals become the vendettas of clans. Loyalty and clannishness and constancy in hatred as in friendship thus become the salient features of Corsican character.

The opportunity to practise violence with impunity and the habit of domination,—for the bandits provide chiefs to the clans — develop a spirit which impels Corsicans to press into army, church, police, politics — any profession, in short, that grants them a morsel of authority. Since the clan organization exalts personal obligations at the expense of civic obligations, political struggle is among Corsicans a form of civil strife, and party success a form of brigandage. In Corsica as in Provence politics is a fine art, but here the leader is conspirator rather than demagogue. He leads by personal ascendency rather than by genial *bonhomie*, and like the American boss relies on "deals" rather than on eloquence to achieve his purpose.

Flushed by the flattering reception of his work, Demolins has recently broken off his survey of French types to take up the more ambitious task of explaining, by the same method, the historical peoples. He aims at nothing less than dispensing with original human varieties, and deriving the attributes of each people, as well as the features of its social life, from the *route* it has followed. A volume on the *routes* of the ancient peoples has appeared, and we are promised another dealing with modern societies.

In this new reading of human evolution the word "race" hardly occurs. This biological notion is replaced by a sociological notion, the "type." For each *route* — that is to say, the physical environment which leaves its stamp upon a nascent folk,— there is a type. The steppe, the tundra, the forest, the desert, the valley, the seaport, the highland, each creates its type. Instead of "Mongol race" our author would say "the type of the steppe." The Lapps are "the type of the tundras," the Pelasgians "the type of the valley," the Dorians "the type of the mountain." An historical people is sometimes a type — the Chinese — or a particular combination of types — the Greeks.

Demolins does not expatiate on the influence of climate or the aspect of nature. Mental and moral characteristics are derived, not immediately from the physical environment, but from Work and from Domestic and Social Organization, which, in the main, is shaped by Work. They are consequences, not causes, of social conditions. To connect the social type with the natural environment, Demolins has carefully analyzed the early forms of economic life. Acting on Le Play's maxim, that mode of livelihood is the key to social science, he has unearthed a multitude of humble but significant facts bearing on the way men live. No man, however, does well to take the globe itself as his field. On the nomads of the steppe and the desert and on certain Mediterranean peoples, Demolins is well informed and delightful; but where his facts are meagre, he is more ingenious than convincing.

We realize the merits of his method, however, when we turn to the similar attempt of Matteuzi to exalt environment at the expense of race. The Italian champions a telluric determinism, whereas that of the Frenchman is economic. He would account for a people by the influences of its historic seat, while Demolins seeks out the *route* that formed the people in its plastic period. Believ-

ing in the inheritance of acquired characters, he attributes to the physical environment a cumulative influence. It is a graving tool that cuts a little deeper each generation. Demolins, on the other hand, steers clear of physiological assumptions. The only fixation of traits he will recognize is that which occurs by means of social structure and tradition. When we add that Matteuzi, ignoring the rôle of the individual genius, would gather into the net of his formula even the religious, speculative, and artistic products of a ripe civilization, the appraisal of his work is no longer difficult.

The importance of race in social philosophy has been discussed by Professor Ripley, and his adverse decision is the more weighty because he believes in race as a physical fact. He goes with the craniologist, in finding three races in the present population of western Europe; but he is not so ready as Lapouge, Sergi, or Bertillon, to connect psychic traits with physical traits. If comparison of head form, tint, and stature shows that two populations —say highlanders and lowlanders or North Italians and South Italians —are of different races, the "anthropo-sociologist" is apt to hinge on this fact all their moral and social diversities. Where Demolins applies geography as the key to local diversities, Lapouge applies anthropology. Professor Ripley, on the other hand, is chary of ethnic explanations of differences between districts in respect to domestic gregariousness, political conservatism, or frequency of suicide or divorce. He concludes: "Most of the social phenomena we have noted as peculiar to the areas occupied by the Alpine type are the necessary outcome, not of racial proclivities, but rather of a geographical and social isolation characteristic of the habitat of this race. The ethnic type is still pure, for the very same reason that social phenomena are primitive. Wooden ploughs pointed with stone, blood revenge, an undiminished birth-rate, and relative purity of physical type are

all alike derivatives from a common cause,— isolation directly physical and coincidently social. We discover, primarily, an influence of environment where others perceive phenomena of ethnic inheritance."

On this matter of social isolation some very beautiful work has been done in the course of the last ten years. M. Leroy-Beaulieu set the pace by his brilliant success in using isolation as the key to the Jewish enigma. The vulgar persist in regarding the traits of the Jew as a race endowment. They stigmatize this or that propensity of his as "Oriental" or "Semitic," and therewith consider the matter ended. The Frenchman perceived that the Jews are not a race, but a people, and set himself to explain how their characteristics have risen naturally from Work and Surroundings.

The Jewish type formed behind the double chain of barriers that for centuries separated the orthodox Jews from the European community; the restrictions of the mediæval Christians which penned them up in the Ghetto, and the Mosaic law which separated them from the *goïm* by a fence of rite and ceremonial observance. The traits of the type developed under these two exclusions,— one offensive, the other defensive,— express for the most part the stress of social conditions. The Jew has an incomparable value sense because for generations he was forced into trade and money changing. He esteems learning because the distinction of the scholar was open to him, but not that of the warrior or statesman. He clings to his religion as all dispossessed peoples cling to the rock of ancestral tradition amid the devouring waves of assimilation. He has his passions and impulses under prudent control, as happens always with unwarlike people long schooled in trade, city life, and money dealings. He lacks in sense of honor because the impulses radiating from chivalry had no access to him. He takes to ruse and hypocrisy because so long treated as a social pariah. If he has a double code

of ethics, it is because persecution has developed in him an intense tribal consciousness and a vivid sense of difference from Christians. He has the domestic virtues because family life has been his refuge from the injustices and insults of social life. The Jew is, then, a product; and many of the peculiarities charged to his Semitic blood will disappear with the complete disappearance of the conditions that produced them.

To Miss Schreiner, also, we owe some golden pages on the genesis of a type in isolation. Throughout the world the half-breeds of juxtaposed higher and lower races have been proverbial for viciousness. The universal popular verdict is that the mongrel is born with a tendency to be deceitful, cowardly, licentious, and without self-respect. This double tincture of evil is commonly laid to crossing, heredity in such case transmitting to the offspring the vices of both parents and the virtues of neither. It was left to Miss Schreiner to light up this enigma, and to show that the depravity of the half-caste is a problem for the sociologist rather than the physiologist.

The secret is that the half-caste issues from an irregular union and is without family or people. Morally he is derelict, drifting forlornly between two societies but belonging to neither. Scorned by the whites and despising the blacks, there is no social place for him; and so he lacks the steadying influence of his kind. The pure black "is in a society which has its own stern social standards and ideals, by living up to which he may still become an object of admiration and respect to his fellows, and above all to himself." "His tribe may be broken up, but he still feels himself an integral part of a great people, up to whose standards he is bound to live, and in whose eyes as in his own he is one of the goodliest and the completest creatures on God's earth." These race standards which the sheer pressure of common opinion forces into the soul of the individual do not reach the half-caste. The Kaffir

has the honor of a Kaffir, the white man the honor of a white; but there is no half-caste honor because no self-conscious race of half-castes generating the ideals and public opinion that support a social line of conduct. The half-caste is simply a fine clinical case of social isolation. What more striking proof could there be that morality, for the most part, takes its rise in human relations!

How far does Work create diversity of character? On this topic no one has been more ingenious than Professor Veblen. He accounts for the alienation of workingmen from the Church on the ground that the members of the artisan class "are in an especial degree exposed to the characteristic intellectual and spiritual stress of modern organized industry, which requires a constant recognition of the undisguised phenomena of impersonal matter-of-fact sequence and an unreserved conformity to the law of cause and effect." Such experiences tend to derange animistic habits of thought.

The great gulf between business men and workingmen in type of thinking he ascribes to the different discipline involved in pecuniary as contrasted with industrial employments. The differentiation of these has proceeded so far that nowadays in many branches large bodies of workers have but an incidental contact with the business side of the enterprise, while a minority have little other concern with the enterprise than its pecuniary management. Now, in the pecuniary occupations, men work within the lines and under the guidance of the great institution of ownership, with its ramifications of custom and legal right; while, in the industrial occupations, men are in their work attentive to natural law, and relatively free from the constraint of conventional norms of truth and validity. The latter fact explains the thriftlessness and lack of money wisdom among workingmen, even the high-priced experts. To it, also, is due the spread of socialism,— a movement which, quite unlike agrarian and

like manifestations of class discontent, does not aim to affect the distribution of property, but to do away with it altogether. On the other hand, the activities of the business man, having more to do with competing, bargaining, and the getting, holding, and protecting of property, tend to conserve predatory habits and aptitudes, to root them in the creed of property, to train them to believe in competition rather than co-operation, to kill any artistic interest in industrial operations, and to dispose them to appraise every process and product at its money worth.

From occupation it is but a step to economic relations as a cause of differentiation.

The fundamental thesis of Professor Veblen's remarkable book is that the possession of means sufficient to exempt from productive labor moulds so subtly the notions of utility, of fitness, of right, and of beauty that in the course of time the wealthy become spiritually a distinct type, so recognized by all the world. His consummate analysis shows that in every age and society the "gentleman," although he may be — quite incidentally — an epitome of human excellences, is, genetically considered, the finished product of the views, canons, and standards that develop inevitably, albeit unconsciously, in a leisure class by sheer virtue of its pecuniary independence.

Why is this class conservative? "Wisdom," say its friends. "Self-interest," say its critics. But to Professor Veblen men are not so rational. The wealthy leisure class is conservative in temper because it is sheltered from the stress of those economic exigencies which impinge on other classes and mould their habits of thought to new conditions. There is nothing to develop in its members that degree of uneasiness with the existing order which alone can induce any body of men to give up habitual views and modes of life.

In like vein Mrs. Stetson, who has written a book to show that many of the proverbial feminine traits, far from

being marks of sex, are simply consequences of the economic dependence of women on men. The exclusion of woman from working on her own account makes her a kind of parasite, and develops in her the parasite's powers of absorption and tenacity. Seeing that her economic fate depends on her being able to win and hold man, she invests too much of her personality in sex attraction, and becomes "oversexed." Because she is shut from the active world within the four walls of the home, she is limited in her information, her ideas, her thought processes, and her judgment. Because she throws her whole being into the highly personal "home" relations, woman magnifies the personal and ignores the general, is unwilling to "stand in line" or "take turn," is deficient in sense of justice and belated in commercial or civic morality, is exaggerated in her devotion to her own and in ministration to their personal needs, but weak in devotion to the corporate welfare. In fact, the sexuo-economic relation, if unmitigated, arrests woman's moral development at the stage of primitive virtues — and vices. The fact that in her marital tutelage she is always being praised or blamed for her conduct develops in her a hair-trigger conscience; but she is apt to be purblind to law, justice, desert. She lives in a forcing bed of sensitiveness to distinctions of right and wrong, but lacks the broad judgment that alone can guide and govern this sensitiveness.

What a broad clearing in the jungle! Hitherto we have assumed that men and women are played upon by the same influences, and so their differences in character must be laid to sex. But "sex," like "race," is the fetich of the lazy. By putting her finger on economic dependence rather than on "love," Mrs. Stetson has closed a new circuit. Woman, such as Schopenhauer saw her, has something in common with slaves, courtiers, onhangers generally. Any human being that must depend not on labor but on closeness of attachment to some other

human being, will develop many "feminine" traits. "Woman" is by no means synonymous with "human female." Certain proclivities supposed to reach bed-rock are found to root in the surface soil of modifiable social conditions. After Lester F. Ward, no one has done more than Mrs. Stetson to show that the woman question is for the sociologist as well as the biologist.

Another example of the power of economic relations to generate a mental type is furnished by Professor Turner in his study of Western influence. The reason why we have produced an Americanism tangent to European thought is that our national character has formed in the presence of a West. By "West" is meant not an area, but a condition. It is the region where the institutions and ideas of an older society are being transformed by the influence of free land. "A new environment is suddenly entered, freedom of opportunity is opened, the cake of custom is broken, and new activities, new lines of growth, new institutions, and new ideals are brought into existence." Although this primitive society develops, differentiates, becomes "East," the early impress abides; and moreover a new West springs up further on to emit fresh impulses of equality and individualism. "Decade after decade, West after West, this rebirth of American society has gone on, has left its traces behind it, and has reacted on the East."

If the democratic temper pervades a community because opportunity is open, manhood at a premium, birth and inherited station at a discount, and earning power fairly uniform, then we ought to conclude that colonies owe their democracy, not to their newness, but to their free land. Not escape from traditions of subserviency, but the high economic potential of the common man, is the cause of their political and social democracy. If this be so, everything depends on the relations of the people to the land. By princely grants to the few it is possible to root

feudalism in the wilderness. The strong Tory aristocratic spirit that showed itself in the American proprietary colonies was the result of great estates. In the South, aristocracy flourished with the plantation system and languished in the regions where small holdings prevail.

California, when the gold-seekers reached it, was a young country; yet Spanish grants had permitted a semi-feudal society to arise. Spanish-America, in fact, unlike our quarter-sectioned West, never started right and never proved a nursery of democratic ideals. The Spaniards, moreover, grazed their West; and pastoralism, from the huge stock-raising farms of the old Narragansett planters to the wide *rancherias* of Argentina and the vast "sheep runs" of New South Wales, tends to build up a territorial aristocracy for the same reason probably that prehistoric pastoralism developed the patriarchate. It is agricultural or mining communities with widely diffused ownership that tend towards economic independence and equality, and are the natural foundations of American, Canadian, and Australian democracy. We shall see if there is a like reaction from Siberia, the only virgin region in the temperate zone now coming under the plough of the white man.

EDWARD ALSWORTH ROSS.

THE UNIVERSITY OF NEBRASKA.

[To be concluded.]

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THE EARLY TRANSPORTATION AND BANKING ENTERPRISES OF THE STATES IN RELATION TO THE GROWTH OF CORPORATIONS.

It is a commonplace observation that the last century witnessed everywhere a great extension of the activities of the State into the field of industry. Americans are not accustomed to think of their own country as taking a very prominent part in this movement, much less as having ever occupied a leading position in it. To them, as to the rest of the world, America is the land of private enterprise *par excellence;* the place where "State interference" has played the smallest part, and individual enterprise has been given the largest scope, in industrial affairs; and it is commonly assumed that this was always so. It is true that even in colonial times the American people displayed an energy in their economic life which Burke declared was equalled by "neither the perseverance of Holland, nor the activity of France, nor the dexterous and firm sagacity of English enterprise." It is true, also, that for more than fifty years the federal government was in the hands of a party that professed to be afraid of strong government, that abolished the internal revenue system because it interfered too much with the private affairs of the citizens, and made the payment of the national debt a leading feature of its policy, lest its existence should breed extravagance and corruption in the government. Nevertheless, it is a fact that this country was one of the first to exhibit this modern tendency to extend the activity of the State into industry. And it advanced so rapidly and so far along this line that it became for a time almost as prominent an example of it as the Australian colonies are in our own time.

Not to mention the promptness with which our people turned from the free-trade ideas of the Revolution to the protective policy, when conditions seemed to require the develop-

ment of manufactures, consider the action of both the federal and State governments towards the early transportation and banking enterprise of the country. Before any European government had projected a comprehensive system of State canals and roads, President Jefferson had called the attention of Congress to such a policy, and Gallatin had submitted his famous report which outlined a complete system of roads and canals, and recommended that the federal government construct them directly or subsidize corporations for that purpose. Work was actually begun by the federal government on the Cumberland road in 1806; and it was ultimately prevented from carrying out Gallatin's plan, not so much by the opposition of the majority of the people as by the accident of hostile executive vetoes. As it was, the government for many years made liberal appropriations of money and public land to assist in the construction of the chief works recommended by Gallatin. To the adoption of a policy of internal improvement by the States there was no such obstacle, and here we find the movement working itself out without obstruction. Something was done by the States in the last decade of the eighteenth century to aid transportation enterprises. Virginia, Maryland, and New York voted money to assist in extending canal communication from the Potomac and Hudson into the interior. Pennsylvania voted a considerable revenue to improving the navigation of rivers and to subsidizing turnpike and bridge companies. But it was after the close of the second war with England that the States took up the work of internal improvement on a large scale. New York led the way with her Erie Canal in 1817, and soon after expanded this into an extensive system of canals, reaching all parts of the State. Pennsylvania followed in 1825 with an equally extensive system of canals; Maryland, Virginia, and the federal government began the Chesapeake and Ohio Canal in 1828; and Virginia as early as 1816 projected a canal to connect the James River with the Ohio, and after 1820 pushed its construction vigorously. A little later a number of railway projects were undertaken: the Baltimore & Ohio in 1828; the Erie in New York and the Western in Massachusetts in the early '30's; while Virginia, South Carolina,

and Georgia projected lines to connect their seaports with the Western waters. The movement was taken up in the West in the early '20's, when Ohio began a system of State canals almost as extensive as those of New York and Pennsylvania, followed about ten years later by Indiana, Illinois, and Michigan, with extensive systems of both canals and railroads. Kentucky and Tennessee devoted considerable attention to the building of turnpike roads, and Kentucky especially to the improvement of the navigation of her rivers.

Nor were the transportation enterprises the only ones to receive the assistance of the States at this time. Almost from the first introduction of banks into this country, it became a common practice for the State governments to invest revenue in bank stock. Many of the early bank charters reserved to the States the right to subscribe for a portion of the authorized capital, and this right was in most cases exercised. With the exception of New Jersey and two or three of the smaller New England States, all of the older States owned more or less bank stock by 1812. Massachusetts had $1,000,000; Pennsylvania, $2,108,000; Maryland, $540,000; and New York, Connecticut, and Delaware, a small amount each. The Northern States ceased to make further investments of this kind at that time, though some of them continued to own their stock until a much later date. Pennsylvania did not dispose of hers until 1843. The Southern States, however, continued to accumulate holdings in bank stock until the Civil War; Georgia had between three and four million dollars in 1839; South Carolina owned all the stock of the Bank of the State of South Carolina, which amounted to $1,156,318; and a large part of Virginia's internal improvement fund, which amounted to $1,185,000, was made up of bank stock. The same policy was taken up in the Western States about 1820. In these States, however, the funds invested in bank stock were not, as in the East, derived from revenue; but the States sold their bonds to secure the necessary funds. The first State to do this on a considerable scale was Louisiana in 1824; and between that date and 1840 the Western and South-western States, including the territory of Florida, issued over $65,000,000 of bonds to provide banking capital to corporations.

Thirteen of the States invested more or less of their shares of the surplus revenue of 1837 in banking. Ten of these were Southern States.*

Thus during the first thirty or forty years of the century the federal and State governments became actively interested in a great number of the most important enterprises in the country. At the very time when the federal government was paying off its funded debt, in order that it might not become a permanent feature of our policy and thus tempt the government to extravagant expenditure, the States were creating a funded debt of more than $200,000,000,— a larger debt than the federal government had ever owed, and the first large funded debt created by the government of any country for purely industrial purposes. It is the purpose of this paper to explain at length the conditions which gave rise to this remarkable movement towards State enterprise here in America, where of all places in the world we should least expect to find it.

I.

To form a correct judgment of the influences which produced this movement, it is necessary to understand the general character of our economic development during the period when it occurred. We will begin, therefore, with a brief sketch of that development during the first forty or fifty years of the nineteenth century. The most important event in our economic history during this period was the opening of the West. By the opening of the West I do not mean the early settlement of the region west of the mountains, which took place on a large scale during the thirty years after the Revolution. This in itself, as I shall attempt to show, had very little influence upon the economic life of the country. I

* The following table gives the amount of bonds issued by each State for banking purposes :—

Louisiana	$23,400,000	Indiana	$2,390,000
Alabama	10,400,000	Illinois	2,665,000
Mississippi	12,000,000	Kentucky	2,000,000
Florida	3,950,000	Tennessee	5,000,000
Arkansas	3,100,000	Missouri	2,800,000

Knox: *History of Banking in the United States*; Trotter: *Observations on the Financial Position and Credit of the North American Union*; House Report No. 296, 3d. session 27th Congress; Bourne: *History of the Surplus Revenue of 1837*; *American Almanac*, 1841, p. 130.

refer rather to that improvement in the economic condition of the West which set in about the time of the second war with England, and which in a decade or two entirely changed the relation of that region to the rest of the country, lifting it for the first time into that important place in our economic life which it has until recently occupied. This event marks the shifting of the centre of interest in our economic activity from the ocean and foreign commerce to the interior and internal commerce. It was the ending of the colonial period in our economic development, and the beginning of what has been the chief object of our economic activity ever since; namely, the application of capital to the settlement of the interior and the development of its natural resources. In order to appreciate the significance of this change to the movement we are studying, it will be necessary to trace its history in considerable detail.

The settlement of new territory and the pushing of the frontier back into the interior are features of American life which began in colonial times. At the end of the Revolution the back country of Pennsylvania, Virginia, and the Carolinas, was full of people, and had its special frontier characteristics in industry and social life. Following the Revolution, these backwoodsmen and many emigrants from the tide-water region, who had been ruined by the war and the exhaustion of the soil, moved into the region west of the mountains. The census of 1790 showed 109,000 people in Kentucky and the region south of it, not to mention those who had settled in western Pennsylvania and Virginia, which must have amounted to as many more.* According to the census the Western States and Territories contained 387,183 inhabitants in 1800; ten years later they contained 1,075,398; and in 1820 2,207,476. To get the total Western population, it is necessary to add the number of inhabitants of western Pennsylvania and Virginia, which in 1820 amounted to 248,476 and 147,531 respectively, making a total for the whole West of 2,603,483. During the same period there was a great emigration to the wild lands

*The population of the four counties of Pennsylvania west of the mountains was, in 1790, 63,518. See Census of 1790.

The old frontier county of Cumberland in Pennsylvania contained, in 1760, 1,501 inhabitants; in 1770, 3,521; in 1793, 24,785. Coxe, *A View of the United States*, p. 512.

of northern and western New York, as well as northern New England. In 1790 the census showed only 1,075 people in New York west of Seneca Lake; in 1800 there were still but 17,016; by 1810 this number had risen to 72,000; and in 1820 to 211,000. These figures show how large a movement of people from the older communities into the interior took place during the thirty years following the Revolution. There must have been between one and a half and two million people living west of the mountains at the outbreak of the War of 1812.

Great as was this movement of people into the West, its economic influence was very slight. The general character of the industry of the country remained what it had been since colonial times. The West at that time had few economic prizes to attract settlers. To the emigrant from the tide-water region it offered a refuge from the pressure of hard times, where he could easily gain a rich subsistence for a numerous family. To the backwoodsman it could add to this the wild, free life of adventure which was so attractive to men of this class. But to the investor or the man who wished to make a fortune it had as yet hardly anything at all to offer. Consequently, its settlement could have little economic influence upon the country as a whole. A little consideration of the conditions upon which the prosperity of a newly settled country depends, and a comparison of these conditions with those prevailing in the West at this time, will make this sufficiently clear.

Since Adam Smith's time, economists have generally accepted his explanation of the prosperity of newly settled countries. "The colonists carry out with them a knowledge of agriculture and of other useful arts, superior to what can grow up of its own accord in the course of centuries among savage and barbarous nations. . . . Every colonist gets more land than he can possibly cultivate. He has no rent, and scarcely any taxes to pay." . . . The application of this efficient labor to the abundant natural resources is supposed to result always in a large production of wealth. . . . "The colony of a civilized nation which takes possession, either of a waste country or one so thinly inhabited that the natives easily give place to the

new settlers, advances more rapidly to wealth and greatness than any other human society."* This explanation, though it appears to account for the prosperity of new countries, does not in reality do so; for it quite overlooks the fact that these conditions have not always resulted in rapid progress in wealth. The mere presence of a certain number of industrious people in a country abounding with fertile soil, forests, mines, and fisheries, by no means insures a rapid development of these resources and a consequent large production of wealth. The economic advantages possessed by a people so situated consist simply in the ability to produce food and raw materials with a small outlay of labor. Before they can utilize these advantages, certain favoring conditions must be present. They must be able to dispose of these commodities in exchange for the commodities which they cannot so easily produce,— in a word, they must have a market.

Theoretically, it is possible for the new country to secure this market by the development of manufactures at home, whereby a non-agricultural population is created; and it might conceivably be better for the community, both socially and economically, to secure its market in that way. But, practically, it is very difficult, if not impossible, for it to do this; and in any case the process of doing it would be so slow that the "advance to wealth and greatness" must be much less rapid than that of new countries is commonly supposed to be. (Manufactures on a large scale cannot be carried on without a permanent wage-earning class; and in a community in contact with cheap, unoccupied land, where every one can easily become an independent proprietor, it is almost impossible to create such a class.) The social attractions of land ownership outweigh those of high wages. Every one has heard of the difficulty which was encountered in this country during colonial times and the early part of the nineteenth century in securing laborers to work for hire. Franklin tells us that even the Scotch-Irish immigrants to Pennsylvania, who had been trained as artisans at home, would not continue more than a few years in that capacity; the early textile manufactures in New England had to depend chiefly upon female laborers, whose average period of service

* *Wealth of Nations*, Book IV., chap. vii., Part II.

was less than five years; while the greatest difficulty was experienced by all the States in securing common laborers to construct the early canals. The creation of a wage-earning class in the North was in fact very slow and very difficult before the flood of immigrants came in, and the chief economic advantage of immigration to this country consisted not so much in the fact that the immigrants represented an actual addition to our laboring population as that they supplied material out of which we could easily create a wage-earning class at the time when we needed to organize labor in order to construct our railroads and develop manufactures. In the South, where even agriculture required the organization of labor in order to be conducted most efficiently, the difficulty or impossibility of inducing the whites to become wage-earners while they were in contact with cheap land is undoubtedly the chief reason why the cotton industry in this country was developed by slave instead of by free labor.

This difficulty of inducing men in a new country to give up the position of an independent proprietor and become a dependent wage-earner does not prevent the development of small manufactures, which are necessary for the immediate and pressing wants of the community, and require no great organization of workmen for their production. If the community for any reason is unable to secure these by trade, the manufacture of them will usually arise, as it did to some extent in the northern colonies in the eighteenth century.* But the development of manufactures is not likely to go much beyond this, or, if it does, that development is sure to be very slow so long as the cheap land continues. Under such conditions there will be much rude comfort among the inhabitants and no lack of the necessities of life. But the community cannot advance rapidly in the production of wealth and the accumulation of capital; division of labor and development of skill do not take place; town life does not arise; and social and economic progress is slow. It may even happen that a community suffers a decline in both its economic efficiency and social life, if compelled to remain for several generations under such conditions. The Boers of South Africa and the Southern mountaineers are good exam-

*Beer, *Commercial Policy of England toward her Colonies*, pp. 73-75.

ples of what may happen to a new community which remains for a long period of time in contact with cheap land and dependent upon the development of manufactures within itself for its economic prosperity.*

It is evident from this that the condition necessary to enable the settlers of a new country to utilize their rich natural resources, and so to advance rapidly in wealth and social well-being, is a market for the commodities which its natural advantages enable it to produce cheaply. It must have commerce with the outside world. In the history of modern colonization it is impossible to find a new settlement which has made great progress in wealth where this condition of a market for its products has not been supplied. All the leading colonies have been concerned in the production of some two or three commodities for which there was already a demand in the markets of the world. It was so with the colonies of all the European countries in the sixteenth, seventeenth, and eighteenth centuries, which were concerned almost entirely with the production of precious metals, tropical and sub-tropical products, like sugar, tobacco, rice, cocoa, and dyestuffs, and a few products of the temperate zone, like furs, fish, and naval stores. These were the only commodities which Europe wished to buy of new countries at that time; and the colonies in many cases came into existence and in all cases grew in wealth because they could produce to supply this demand. The New England and Middle colonies are no exception to this rule; for, though they had few markets in Europe, the rise of the West India sugar industry, based on slave labor, supplied the market which created their prosperity. Of course, the founding of many of the colonies was due to other than economic motives; but the subsequent progress of these colo-

* Mill saw clearly the influence of foreign commerce upon the prosperity of a backward community. . . . "There is another consideration, principally applicable to an early stage of industrial advancement. A people may be in a quiescent, indolent, uncultivated state, with all their tastes fully satisfied or entirely undeveloped, and they may fail to put forth the whole of their productive energies for want of any sufficient object of desire. The opening of a foreign trade, by making them acquainted with new objects or tempting them by the easier acquisition of things which they had not previously thought attainable, sometimes works a sort of industrial revolution in a country whose resources were previously undeveloped for want of energy and ambition in the people." . . . *Principles of Political Economy*, Vol. ii. p. 135.

nies in wealth was due to the rise of markets for their products. The same thing is true also of the great colonies and new countries of the nineteenth century, like Australia, South Africa, the Canadian North-west, California, and Argentina, whose economic progress has been primarily due to the rise of a market in old countries for wheat, meats, cotton, wool, and such commodities. There has always been a demand for gold and silver, and that accounts for the great part which their production has played in the settlement of new countries.

Let us see now what were the conditions existing in the West before 1812, and how far they correspond to those we have found to be necessary to secure the prosperity of a new community. Separated from the Eastern seaboard by complete lack of water communication, the Western people were unable to send any of their produce to the Eastern cities, except a few cattle, hogs, and horses, which could be driven to market over long distances, and a few commodities like furs, which could stand the expense of land carriage.* They were compelled, therefore, to depend almost wholly upon such markets as could be found at the mouth of the Mississippi. With the exception of a small amount that went from northern Ohio and western New York, nearly all Western produce was sent down the rivers to New Orleans. Not only was this an expensive and dangerous voyage before the days of steamboats, but there was very little demand for the produce of the West when it arrived at New Orleans. The population on the lower Mississippi was very small, and required little, if any, Western produce for its own consumption. The rest of the produce had to be sent around by sea to the Atlantic cities or exported to the West Indies, Mexico, or Europe.† The total

* "I may add that there is not any species of territorial produce in Kentucky, with the exception of ginseng, the value of which will pay for its conveyance by land from this State to Philadelphia." Michaux, *Travels to the Westward of the Alleghany Mountains*, p. 188.

† The European wars sometimes afforded a market, especially for wheat, as it did to the agriculturists of the Eastern States. Sea-going ships were built on the Western rivers, loaded with flour, and sent abroad. "The culture of wheat is of the greatest importance to the country, much more so, however, as an article of export than consumption." Michaux, *Travels*, p. 222; Roosevelt, *Winning of the West*, vol. iii. p. 225.

value of the produce received at New Orleans in 1807 was only $5,370,000, and by 1816 it had increased to only $8,773,000. 39 per cent. of this in the latter year came, however, from Louisiana and the lower Mississippi.* The remainder represents the chief part of the exports of an agricultural community of nearly two million people, an average of only about $2.70 per head of population. The number and size of towns in the West at this time is another convincing proof of the slight development of trade which had taken place. The only town of any considerable size in the whole West was New Orleans, through which passed the bulk of the exports and a considerable part of the imports. This town had 24,562 inhabitants in 1810. Pittsburg, from which was distributed the larger part of the imports, and which contained the most important manufactories in the West, had only 4,768 inhabitants; Lexington, which Michaux tells us carried on nearly all the commerce of Kentucky and Tennessee, had only 4,326 inhabitants; and Cincinnati had only 2,540. The other commercial places like Louisville, Nashville, Natchez, and St. Louis, were little more than mere villages, with about one thousand inhabitants each. The significance of these figures will appear more striking if we compare them with similar ones for some new communities of later times. In 1891 the two colonies of Victoria and New South Wales, whose industry was almost entirely agricultural and pastoral, had an average export of $20 per inhabitant. Washington and Oregon, with a population of 663,198 in 1890, had commerce enough to build up four cities with an aggregate population of 145,150, besides several smaller towns of from 1,000 to 4,000 inhabitants. Kentucky and Tennessee had in 1810 almost exactly the same population,—namely, 668,238; and the town which is said to have carried on the larger part of their commerce had but 4,326 inhabitants.

With regard to manufactories there were, as we should expect, a great number of small, local ones, producing articles of prime necessity. Almost every community had one or more grist and saw mills; and very many had forges, tanneries, and

* See *Report on the Internal Commerce of the United States for* 1887, pp. 185, 191-192. This volume contains an excellent history of the commerce on the Western rivers, pp. 178-234.

salt works, fulling and carding mills, and paper-mills.* In Pittsburg, Lexington, and Cincinnati there were a number of industries that were not purely local in character.† But the size of these towns, which were more largely commercial than manufacturing centres, shows how small were these industries; and travellers did not fail to note the obstacles which retarded their further growth. Michaux comments on the high price of labor, and says it "is occasioned by the inhabitants giving the preference to agriculture, there being but few who put their children to trade, because they require their assistance in their own employment." ‡

A contemporaneous description of the West by one whose commercial connection gave him a thorough knowledge of it will suffice to confirm the views here presented. Congress-

*The following is a description of a typical Western community in 1810. The town is Lebanon, Ohio, the county seat of Warren County, and contained about 300 inhabitants. "There is a printing office established in this place, the papers of which have an extensive circulation; the mail passes through once each week. The following are the principal mechanics, to wit, 20 house carpenters, 3 cabinet makers, 1 wheelwright, 3 tan yards, 4 shoemaker shops, 1 stocking weaver and reed maker, 2 blacksmith shops, 1 silver smith, 2 saddle shops, 1 nail maker, 1 hatter shop, and 3 tailor shops. There are at present established here 7 stores and 5 taverns." . . . There were also 7 grist-mills within six miles of the town, and 8 saw-mills. Cuming, *Sketches of a Tour in the Western Country* (1816).

An example of a town in the older part of the West where manufacturing was most extensively carried on is Brownville and Bridgeport in Fayette County, western Pennsylvania. They had about 1,000 inhabitants in 1809. "They contained . . . . 6 hat manufactories, 4 nail manufactories, 2 potteries, 1 brewery, 1 rope walk, and 6 boat yards. . . . In a distance of 15 miles are 9 forges, 12 furnaces, 3 rolling and slitting mills, 25 merchant mills, 30 saw-mills, 4 oil-mills, 3 fulling mills, 3 wool carding machines, 1 paper mill, and 2 sickle mills." . . . Cuming, p. 180.

†For the manufactures of the West consult Winterbotham, *View of the American United States*, iii.; Michaux, *Travels to the Westward of the Alleghany Mountains*, pp. 151–154; Flint, *Letters from America*; Cuming, *Sketches of a Tour to the Western Country*.

Pittsburg had industries that employed a total of 1,280 hands in 1817. There were 4 founderies with 87 hands, 5 glass factories with 174, 11 copper and tinsmiths with 100, 2 cotton factories with 36, 7 cabinet-makers with 43, a linen-mill with 20, a nail-mill with 47, and a paper-mill with 40.

Lexington had 5 coarse linen-mills with upwards of 500 employees, 3 cotton-mills, a large steam flour-mill, 3 or 4 paper-mills, and some tan-yards.

‡Michaux, *Travels* p. 155. "The following comparison will render this defect of assistance in the western country more perceptible. At Charleston, in South Carolina, and at Savannah in Georgia, a white smith, tailor, shoemaker, etc., earns 2 piasters [dollars] a day, and cannot live a week for less than 6. At New York and Philadelphia he receives only one piaster, and it costs him 4 per week. At Marietta, Lexington, and Nashville, Tenn., this workman receives a piaster, or a piaster and a half a day, and can live a week upon one day's wages."

man Porter, of western New York, made the following statement in a speech in Congress in 1810: —

The great evil, and it is a serious one indeed, under which the inhabitants of the western country labor, arises from the want of a market. There is no place where the great staple articles for the use of civilized life can be produced in greater abundance or with greater ease, and yet as respects most of the luxuries and many of the conveniences of life the people are poor. They have no vent for their produce at home, and, being all agriculturists, they produce alike the same article with the same facility; and such is the present difficulty and expense of transporting their produce to an Atlantic port that little benefit is realized from that quarter. The single circumstance of want of a market is already beginning to produce the most disastrous effect, not only on the industry, but on the morals of the inhabitants. Such is the fertility of their land that one-half their time spent in labor is sufficient to produce every article which their farms are capable of yielding, in sufficient quantities for their own consumption, and there is nothing to incite them to produce more. They are, therefore, naturally led to spend the other part of their time in idleness and dissipation. Their increase in numbers far from encourage them to become manufacturers for themselves, but put to a greater distance the time when, quitting the freedom and independence of masters of the soil, they submit to the labor and confinement of manufacturers.*

* *Annals of Congress*, 1810, p. 1388. Compare Wakefield, *England and America*, ix., for the effect of dispersion of population on new communities.

The following extracts from reliable sources will further illustrate the condition of the West: "At that time [1823] a small portion of our citizens residing near the lakes were about to enjoy the benefits of commercial intercourse with New York by means of the Erie Canal, then approaching its completion; and those residing near the Ohio had access to New Orleans, a fluctuating market frequently glutted and depressed, in a warm and unhealthy climate, by means of that river and the Mississippi. But the inhabitants of the interior had no means of transporting to market any of the surplus productions of a luxuriant soil, except such domestic animals as were capable of being driven to the eastern marts or to the lakes or the Ohio River."

"It should not be forgotten that at this time wheat was selling at from 20 to 30 cents per bushel, and corn at from 10 to 12½, and in many instances, at prices even lower than these; and while the farmer could, with difficulty, raise money to pay his taxes, produce of his farm was literally rotting in his yard from want of a market."

"Under these circumstances, the greater portion of our population had little stimulus to industry, and limited means of improving their pecuniary or moral condition; and, owing to the little intercourse then existing between them and the inhabitants of other states and countries, still less ambition to make those improvements." *Report of the Ohio Canal Commissioners*, 1833.

"Manufacturers in the western states are, still, too limited in number and extent to promise us a speedy relief and protection from foreign debt. It, therefore, remains for us to avail ourselves of the more common production of the country. . . . Your observation must have perceived that one principal obstacle to the removal of the commercial distress consists in the cost and difficulty of

Such was the condition of the West before the War of 1812, and its economic relation to the rest of the country. Turn now to the changes which followed the war and their effect upon the West, and through it upon the country at large. As we have seen, the chief obstacle to the prosperity of this section was the lack of a market. Two events soon removed this obstacle, and started the whole country forward on its remarkable career of developmont. The first was the introduction of the steamboat; the second was the extension of cotton culture into the South-west. The steamboat was introduced on the Ohio at Pittsburg as early as 1811; but it was six years later before it had demonstrated its ability to stem the rapid current of Western rivers. With that event the Western country was suddenly supplied with a system of transportation which reached wide stretches of country, and brought them into easy communication with the seaboard. With the rise of the cotton industry in England and Whitney's famous invention in this country, cotton culture began its amazing growth. For more than twenty years it was confined almost entirely to the Eastern seaboard. A small amount was raised about New Orleans in Louisiana, near Natchez in Mississippi, and near Nashville in Tennessee; but in 1802 only 29,000 bales were exported from New Orleans, and this had increased to only 37,000 in 1816. About the latter date cotton planters began to turn their attention for the first time in considerable numbers to the South-west. The great body of fertile soil in this region suited to the cultivation of this staple, the numerous navigable rivers, coupled with the fact that cotton, having large value in small weight, could bear the expense of land transportation to the rivers from a long distance over poor roads, combined to make this extension of cotton culture into

transporting to market those productions which constitute, or, rather, make an almost only resource for regaining and preserving the value of our trade." *Message of the Governor of Ohio*, 1819.

"A great portion of the population which has poured into the western country for the last ten years has been honest and enterprising, but needy, and forced upon adventure by necessity. Their object has been existence and comfort for their numerous families. But when ready markets with easy and regular transportation are open to those countries, men of capital and men, too, of high standing as agriculturists, will be induced to leave an old for a new and more genial soil." *Considerations on the Great Western Canal; New York Corresponding Association for Promoting Internal Improvements.*

the South-west the source of the greatest profits in agriculture which the American people had ever enjoyed.* A flood of emigrants from the older slave States now poured into this region. Alabama and Mississippi did not contain more than 75,000 people in 1816. Only four years later their population was 200,000, and it more than doubled during the next ten years. Louisiana, which contained about 76,000 people in 1810, had 143,000 in 1820, and 215,000 in 1830. Certain parts of Tennessee, Arkansas, and Florida, where cotton could be raised, were settled with equal rapidity. New Orleans was the great central market to which the cotton product of this region was sent; and it received, as we have seen, only 37,000 bales in 1816. That amount rose to 161,000 bales in 1822, 428,000 bales in 1830, and reached 923,000 in 1840.† The cultivation of sugar in Louisiana was also increasing at this time, and was equally profitable.‡

The effect of this extension of cotton and sugar cultivation into the South-west upon the Southern States is well known. It opened up a very profitable field for the employment of the labor and capital of this section, and this economic advantage went chiefly to the revival and extension of the slave system. But its effect upon the Northern States, especially the newer States of the North-west, has hardly received the attention its importance deserves. In reality, it was that movement which gave to them their first important market, and thus supplied the one remaining requisite to their economic development. The use of slave labor on a large scale not only prevents the

* "The soil that is cultivated in these regions is exuberantly rich. In no other place does the planter accumulate so fast from mere agriculture. Louisiana undoubtedly exports more value, according to the extent of land cultivated, than any other country. The cotton plantations yield from $10,000 to $50,000 a year, and many of the sugar planters probably derive twice that sum from their annual crop." Flint, *Recollections of the Last Ten Years* (1855), p. 326.

"The profits of cotton growing when I was in Alabama (1852) were 35 per cent. One planter whom I knew had bought $15,000 worth of land within two years, which he could then have sold for $65,000. He expected to make that season $50,000 or $60,000 from his growing crop. It is certainly the place to become rich in." . . . Martineau, *Society in America*, vol. i. p. 228. See also Clay, *Works*, vol. i. p. 16.

† *Report on Internal Commerce of the United States*, 1887.

‡ The sugar product of Louisiana was in 1823 30,000 hogsheads, in 1828 88,000 hogsheads, and in 1845 186,000 hogsheads. *The Report of the United States Commissioner of Agriculture*, 1877, p. 29.

rise of manufactures, but it always causes a curious territorial division of labor in agriculture as well. Slave labor to be efficient, must be carefully supervised; and its maximum efficiency is therefore obtained only in those branches of agriculture which permit the close organization of labor. For this reason every slave community devotes itself for the most part to the production of a few staples, like cotton, sugar, tobacco, or rice, and finds it cheaper to purchase its food and other agricultural supplies, as well as its manufactured articles, from free labor communities. This gives rise to a trade in agricultural commodities between the slave communities and other agricultural communities. The important trade between the northern Continental colonies in the eighteenth century and the West Indies was a trade of this kind; and it was principally the development of the sugar colonies of the West Indies by slave labor, and the consequent dependence of these colonies on other communities for food and raw material, which provided New England and the Middle colonies with their most important market.* In exactly the same way the introduction and spread of cotton and sugar culture into the southern part of the Mississippi Valley led to a division of labor between the planters of the South and the farmers of the North, and gave rise to an important trade in agricultural produce upon the Western rivers of the same character as that which went up and down the Atlantic coast during colonial times between the Northern colonies and the West Indies.

The development of this trade between the cotton planters and the farmers began with the first introduction of cotton culture into South Carolina and Georgia. Ramsey tells us that down to about 1793, when cotton began to be raised in South Carolina, that State produced both wheat and corn for export. By 1807, however, the greater profit to be earned in the production of cotton had attracted labor and capital to that industry, and the State was importing both wheat and corn.† Olmsted said in 1856: "The slave labor of the State [South Carolina] is almost exclusively devoted to the culture

*For the character and importance of this trade consult Beer, *Commercial Policy of England toward the American Colonies*, chap. vi.

†Ramsey, *History of North Carolina*, vol. ii. p. 217.

of cotton and rice. Live stock, meat, corn, bread-stuffs, and forage, though the soil and climate of a large part are entirely favorable to that production, are very largely imported; and for nearly all sorts of skilfully manufactured goods the people are quite dependent on the Free States. Trade and skilled labor of all sorts is mainly in the hands of persons from the Free States or foreign countries."* . . . Live stock was raised in great numbers in the back country of the Southern colonies in the eighteenth century, and was a considerable item of export; but, after the introduction of cotton culture, horses, mules, and swine were imported into these States from Kentucky and Tennessee. This trade had become very large by 1825, and played a considerable part in the discussions over the tariff and nullification in the years following.† In the South-west the same tendency to concentrate attention upon the two great staple products, sugar and cotton, and to procure food and other supplies from the North, showed itself even more strongly than in the East. Flint says of Louisiana in 1825 that "corn, sweet potatoes, melons, and all northern fruit, with the exception of apples, flourish here; though the planters find the great staples, cotton and sugar, so much more profitable than other kinds of cultivation that many of them calculate to supply themselves with provisions almost entirely from the upper country."‡ An English traveller in

* *Seaboard Slave States*, p. 540.

† "When the policy of 1824 went into operation, the South was supplied from the West through a single avenue [the Saluda Mountain Gap] with live stock, horses, cattle, and hogs to the amount of considerably upwards of a million dollars a year." Haynes's Speech on the Tariff, *Congressional Debates*, vol. viii. p. 80. Compare Clay's remark on the same subject, *Works*, vol. vi. p. 16.

During nullification troubles it was proposed to influence the North-western States to repeal the tariff act by prohibiting the introduction of cattle, horses, mules, hogs, beef cattle, bacon, and bagging into the slave States from this section. See Niles's *Register*, vol. xxxiv. pp. 301–304. Houston, *A Study of Nullification in South Carolina*, p. 70. "There is not a finer grazing country in the world than South Carolina; and, were attention paid to the raising of cattle, sheep, goats, hogs, horses, mules, etc., this state might supply itself as well as all the West India Islands with these useful animals; but every other object gives place to cotton. Immense numbers of cattle, hogs, horses, and mules, are driven annually from the western country into this state, and sold to advantage." Mills, *Statistics of South Carolina*, p. 155, 1826.

For a description of this trade in the '50's see Olmsted, *A Journey in the Back Country*, pp. 223, 224.

‡ Flint, *Recollections of the Last Ten Years*, p. 34.

the South-west in the '50's had a similar comment to make: "Strange to say, it is more difficult to raise the requisite quantity of provisions for a southern plantation than to manufacture wagons, plows, houses, and articles of clothing. The bacon is almost entirely imported from the northern states, as well as a considerable quantity of Indian corn."*

The extent of this commerce between the North-west and the South it is impossible to ascertain with accuracy, for there are no reliable statistics of it as a whole. The rapid growth in the number of steamboats on Western rivers, especially the number running between the Ohio and upper Mississippi and New Orleans, indicates a corresponding increase in the trade between these sections. Steamboats on the Western rivers increased from 20 in 1818 to 200 in 1829, 450 in 1842, and 1,200 in 1848, while their size and carrying capacity was also increasing.† Besides this a large amount of flatboat tonnage existed, and a considerable part of the produce of the Ohio Valley was sent to market by this means. In 1845 the flatboat tonnage amounted to 620,000 tons, and the steamboat tonnage to 1,262,000 tons. The number of steamboat arrivals at New Orleans from the Ohio and upper Mississippi are not separated from the total arrivals before 1859, but in that year they were about 1,500 out of a total of 4,000. The value of the produce received at New Orleans increased from $8,700,000 in 1816 to $26,000,000 in 1830, $50,000,000 in 1841, and $185,000,000 in 1860. Between 1816 and 1820 about 61 per cent. of this tonnage was farm produce from the North-west. The proportion, though not the total amount, of farm produce declined until it reached 28 per cent. in 1860.‡ The steady growth of the river towns which handled this trade also indicates its growth. Thus Cincinnati increased from 9,600 in 1820 to 115,-

*Russell, *North America: Its Agriculture and Climate*, p. 265. "The business of the merchants here [southern Illinois] is very extensive. They buy up the produce of the land, consisting of wheat, maize, and other grain, of cattle, salted pork, butter, cheese, and other articles, which they carry to New Orleans, and there they purchase sugar, coffee, tea, foreign wines, woollen cloth, and all other articles which the Illinois planters require for their own use." Stuart, *Three Years in North America* (1830), vol. ii. p. 239. Consult De Bow's *Review*, vol. xvi. p. 540, for the trade of Cincinnati with the South.

†Chevalier, *Society, Manners, and Politics in United States*, p. 216; De Bow, *Resources of the South and West*, vol. ii. p. 460.

‡*Report on Internal Commerce of the United States*, 1887.

000 in 1850, Louisville from 4,000 to 43,000, and St. Louis from 4,900 to 77,000. It was estimated in 1845 that during the twenty years previous planters had spent $900,000,000 in neighboring States for mules, horses, implements, and clothing.* These are but rough indications of the extent of this trade; but they are sufficient to establish the fact that it was very large, and that it grew up almost entirely after 1815.

The influence of this extension of cotton culture upon the North was not confined to the agriculture of the North-west. It affected every other Northern interest as well. The prosperity which it brought to the whole Southern and Western population increased their ability to purchase such manufactures as they required, and thus provided Eastern manufacturers with a rapidly expanding market. This was the great influence which caused the steady growth of manufactures from 1816 to the Civil War, both under the protective policy of the earlier and the low tariff policy of the later years. Commercial interests also received great stimulus. The internal trade of the country sprang at once into commanding importance. A large and prosperous agricultural population in the South and West was devoting itself to the production of valuable crops of food and raw material, and exchanging them with the North-eastern States and Europe for manufactures. This trade opened new opportunities for the merchant, the banker, the ship-owner, the insurance company,— to the whole commercial class, in fact. The fact that all the capital which the South accumulated was put into cotton culture left this whole field open to the commercial capital of the North-east.† An eager rivalry arose among the commercial cities of the seaboard to secure a share of this internal trade, and each appreciated that its future position would be determined chiefly by the success of its efforts in this direction.

The effect of all these changes upon the economic condition of the country at large was almost revolutionary. It opened the eyes of the people to the economic possibilities of their situation, and turned their attention for the first time to the

*Ingle, *Southern Sidelights*, p. 55.

† For an account of the way Northern capital absorbed Southern trade consult the records of Southern Commercial Conventions in De Bow's *Review*.

exploitation of their natural resources. The West ceased to be a mere refuge of poverty and field for the adventure of pioneers. The enterprise and capital of the country turned away from the ocean and foreign commerce, and found here a new field for its operation. One of the most striking features of the new period was the increase of speculative activity everywhere in American industry. This was largely the result of the enormous increase in land values, to which the changes we have described gave rise. The choice cotton lands of the South-west and the coal lands of eastern Pennsylvania suddenly became worth fabulous sums.* Along the canals and rivers, especially in western New York and central Ohio, farm produce more than doubled in value; and the value of the land rose correspondingly.† From New York on the east to New Orleans on the west, new towns were springing up along the lines of trade, and old ones growing with a rapidity that was new in American experience. The population of New York increased from 123,000 to 203,000 in the ten years from 1820 to 1830; New Orleans, from 27,000 to 46,000; Cincinnati, from 9,000 to 24,000; and Louisville, from 4,000 to 12,000. Buffalo and Rochester were hardly in existence in 1816; in 1830 they had 18,000 inhabitants. The number of villages along the New York canals increased from 55 to 105 between 1817 and 1833. Of course, the growth of all these cities and towns caused a corresponding increase in the value of real estate. That of New York went up from $69,000,000 to $165,000,000 in ten years, and the increase in many others was still greater. It is easy to see how all these things would foster speculation. Josiah Quincy declared in 1826 "that the enormous increase in wealth without labor which has come to fortunate speculators since 1815 seems to make the invoca-

*One tract of coal land rose in value from $9,000 to $42,000 between 1824 and 1829, another from $190 to $36,000, and a third from $1,400 to $12,000. *American Annual Register*, 1829-30, p. 88. Martineau, *Society in America*, vol. i. pp. 228 259; ii. 65.

†The land of the Holland Land Company in western New York was selling at $25 per acre in 1825. Two years before it was hardly salable at all. Niles's *Register*, July 2, 1825.

Wheat was worth from 25 to 37 cents a bushel in central Ohio in 1825, and from 50 to 75 in 1832. Corn was worth 12 cents a bushel at Dayton in 1822, and 37 cents at Cincinnati in 1832. Niles's *Register*; *Report of Ohio Canal Commissioners*, 1832.

tion of chance legitimate business."* This speculative tendency went on increasing until it culminated in the crisis of 1837–39,— the first of a series of such crises which have accompanied the development of the West.†

II.

We are now in a position to understand the economic forces which were acting in this country during the early part of the nineteenth century, and to judge correctly of the causes which led the American people at that time to make so large a use of the powers of the State to assist industries. There are three matters which need to be considered in this connection, in order to bring out the situation which produced the movement. The first is the great increase in the demand for capital which accompanied the opening of the West; the second is the supplies of capital which were available at that time to satisfy this demand; and the third is the obstacles which prevented this capital from being secured and applied to the various projects of the time by the ordinary agency of private enterprise, the corporation. We will take up each of these matters in turn.

The effect which the economic changes described above had upon the demand for capital may best be shown by comparing the chief enterprises in which capital was invested before 1815 with those that arose after that date. Demand for capital in any community means the existence of numerous opportunities for its profitable investment. Such opportunities had always

* *Figures of the Past*, p. 275.

Chevalier wrote in 1835: "Everybody is speculating, and everything has become an object of speculation. The most daring enterprises find encouragement. All projects find subscribers. . . . The principal objects of speculation are those subjects which chiefly occupy the calculating minds of the Americans; that is to say, cotton, land, city and town lots, banks, railroads." *Society, Manners, and Politics in the United States*, p. 305.

See also Martineau, *Society in America*.

† I do not overlook the fact that speculation in wild lands was common from the first settlement of the West after the Revolution, but this early speculation was of a somewhat different character from that of later years. No such great appreciation in the value of land took place in the West as was the case later. The rush of settlers created a demand for the land. The speculators sought to get a title to large tracts of it at low prices, in order to sell it out in small lots to the settlers at a slight advance. See Michaux, *Travels to the Westward of the Alleghany Mountains*, pp. 134, 197, 297; Roosevelt, *Winning of the West*, vol. iii. pp. 5–10; *Observations on the North American Land Company lately instituted in Philadelphia*, London, 1794.

existed in America in sufficient numbers to absorb all the capital that could be obtained, and interest had been high; but these opportunities had been confined for the most part to enterprises connected with commerce, to mercantile transactions, banking, insurance, shipping, and, to a small extent, manufactures. The people had not found it profitable to risk much capital in enterprises designed to promote the settlement of the country and the exploitation of its resources. The principal ways in which capital is applied to a new country for this purpose is in constructing works of transportation, canals or rail-roads, and in supplying advances of goods through commercial credit or making loans of cash to settlers to enable them to clear and cultivate the land. In Pennsylvania and the States north of it considerable progress had been made in building turnpike roads during the ten or fifteen years prior to the war. But the improvement of rivers and building of canals, which alone could enable remote regions to send their produce to market, had been almost entirely neglected. Numerous efforts had been made to induce capital to take up this work, but with very little success. Two small canals, one in Massachusetts to connect Boston with the Merrimack River, the other in South Carolina to connect Charleston Harbor with the Santee River, were all that had been completed. An imperfect canal navigation had been opened from the Hudson to Lake Ontario, and the navigation of the Susquehanna, Potomac, and James Rivers slightly improved. The capital for these works had been secured with great difficulty; and many similar projects, like the Delaware & Chesapeake, the Delaware & Schuylkill, and the Schuylkill & Susquehanna Canals, had secured no capital at all.* In the settlement of the West and the development of its resources, men were even less inclined to risk their

* For the progress of turnpike building consult the statutes of the different States. The number of turnpike companies chartered can here be found. 55 turnpike companies were chartered by Pennsylvania between 1793 and 1812, 57 by New York between 1796 and 1805, and 105 by Massachusetts between 1797 and 1812. Gallatin's *Report on Roads and Canals* gives an account of the canals up to 1807. They were as follows:—

Middlesex Canal	. . . . .	cost	$550,000
Santee & Cooper	. . . . .	"	650,000
Western Island Lock Navigation	. . . . .	"	232,000
Susquehanna Improvement	. . . . .	"	250,000
Potomac "	. . . . .	"	444,000
James River "	. . . . .	"	244,000

capital. I have found no evidence that any Eastern capital was invested in this way before 1815. The settler moved out into the wilderness with his own little stock of household goods, farm implements, and cattle. No merchant with large credit in the East stood ready to advance supplies of food and other necessaries to him, while he devoted his labor to the production of a crop to be sent to market, nor was he assisted to clear his land and prepare it for cultivation by loans of cash from individuals or mortgage companies. Of course there were banks in the new States; but most of them were mere paper money machines, with no real capital at all, and those that had a real instead of a nominal capital had to depend more upon local than upon Eastern supplies.

After 1815 the situation began to change. As the settlement of the West took on a different character with the improvement of its economic condition, enterprises designed to promote its development received much more attention from the business men of the country. Not only was the utility of such works to the public more clearly perceived, but the possibility of their yielding a profit to the investor appeared less remote; and, as a result, many more such projects came into existence. The commercial cities of the seaboard were the first to be affected. They had long been interested in Western trade, and some of them had made efforts to improve their communications with the West; but the trade before 1815 was comparatively small, as we have seen, and, with the exception of a canal of little value from the Hudson to Lake Ontario and some little improvement in the roads from Philadelphia and Baltimore to the Ohio River, nothing had been accomplished. They now took up the matter in earnest. New York was the first to act, and in two years after the close of the war was ready to break ground on a canal to connect the Hudson with Lake Erie, and another to connect it with Lake Champlain. Virginia established a Board of Internal Improvements in 1816, and began the James River and Kanawha Canal in 1820; Pennsylvania commenced the construction of a canal to connect the Susquehanna River with Pittsburg with a portage railroad over the mountains in 1825; Maryland, Virginia, and the federal government under-

took to build the Chesapeake & Ohio Canal to connect the Potomac and Ohio Rivers in 1828; and a legislative committee recommended a canal to connect Boston with the Hudson as early as 1826. With the advent of the railroad a new crop of projects to reach the West arose. The Baltimore & Ohio was the first, begun in 1828; a few years later the Massachusetts project of a canal to the Hudson was changed into the Western Railroad from Worcester to Albany; New York planned the Erie Railroad to connect New York Harbor with Lake Erie; Virginia proposed to reach the West by a railroad from Lynchburg on the James River Canal south-west to the Tennessee River; Georgia was to reach the West by extending her local railroads from Atlanta to Chattanooga; while South Carolina, Kentucky, and Tennessee united to further the construction of the Louisville, Cincinnati & Charleston Railway to connect the Ohio River with the south Atlantic seaboard. Besides these larger works there was a multitude of smaller ones in nearly all the Eastern States. Not to mention turnpike roads, there were the Blackstone and Farmington Canals in New England, the former to connect Providence with Worcester, and the latter New Haven with the Connecticut Valley. New York and Pennsylvania planned a network of lateral canals connecting their main works with all parts of these States. The development of the anthracite coal industry began immediately after 1815, and led to a series of canal projects in New York, New Jersey, and Pennsylvania. The Schuykill Navigation was the first, beginning in 1815, and followed about 1825 by the Lehigh Navigation and the Delaware & Hudson, and Morris Canals. The Raritan Canal was also projected a little later, to connect New York and Philadelphia. A great number of small canals and river improvements were undertaken in Maryland, Virginia, and the States south of them. The Delaware & Chesapeake and Dismal Swamp Canals were the largest of these. The local railway projects were numerous in all the States after 1830, particularly in Massachusetts, New York, and Virginia.

In the West the transportation enterprises were scarcely less numerous or magnificent. The most important works were to

connect the lakes with the Ohio and Mississippi Rivers, while the rest were either branches of the main lines or shorter lines designed to connect the interior of the States with the lakes or the rivers. The first to be undertaken was the Ohio Canal from Cleveland to Portsmouth, which was begun in 1825; the Miami Canal from Cincinnati to Dayton was begun at the same time, but was soon after extended to Toledo, making a second line from the lake to the Ohio River; the Muskingum River was made navigable from its mouth to its junction with the Ohio Canal at Dresden; and two canals were built from the Ohio Canal eastward to connect with the canal system of Pennsylvania. In western Pennsylvania a line was built from Beaver on the Ohio River to Erie on the lake. West of Ohio the Wabash Canal was projected from the Miami to the navigable waters of the Wabash, thus connecting Lake Erie with the Ohio by a fourth route. The Illinois & Michigan Canal from Chicago to the Illinois River made still another connection between the lakes and the river system of the West. Besides these, many smaller canals were projected and partially constructed: the Whitewater Canal northward from the Ohio River to the National Road in eastern Indiana; the Central Canal of Indiana through the State from the Wabash Canal to Evansville on the Ohio River; several branches to the Ohio Canal; the Sault Canal and one across the lower peninsula in Michigan; the Louisville & Portland Canal around the falls of the Ohio; a canal around the Muscle Shoals of the Tennessee in northern Alabama; the improvement by slack-water navigation of the Kentucky, Licking, Green, and Barren Rivers in Kentucky. These improvements, together with the rivers and lakes, made up a network of navigable waterways for the West quite equal to anything then to be found in the world. About the middle of the '30's several of the Western States also projected important railway lines. Michigan undertook to build two lines across the State to connect Lake Erie with Lake Michigan. Illinois planned and began the construction of the Illinois Central to connect the Illinois and Michigan Canal at La Salle with Cairo on the Ohio River, with numerous branch lines to the east and west, reaching all parts of the State. There was one line each in Indiana and Kentucky,

from Madison on the Ohio to La Fayette on the Wabash Canal in the one case, and from Louisville to Frankfort in the other. In Ohio, Kentucky, and Tennessee great numbers of turnpike roads were projected. Capital was required also for the expanding internal trade of the country and to assist in a more rapid development of Western agriculture. This showed itself in the establishment of numerous large banks in all the new States, to which reference was made at the beginning.

It is clear from this review that the twenty years following 1815 was marked by an enormous increase in the demand for capital. All these enterprises which have been enumerated were not mere visionary projects, to be talked about and then abandoned; but capital was invested in every one of them, and the larger part of them were actually carried through. If we compare them with the small number and size of the enterprises carried on during the twenty years before 1815, we are struck at once by the contrast. They evidently mark the beginning of what we may call the capitalist era in American industry. With the exception of banks, whose capital is in fact not invested in a single industry, but divided up in loans among a great number of different industries, there had never been an industrial undertaking in the country that called for as much as a million dollars capital. Moreover, the fixed capital accumulated in this country was up to that time insignificant. The people knew nothing of large enterprises in which great amounts of capital had to be sunk, and profits awaited for a long period of years.* The canal and railway projects to connect the Eastern cities with the West, and the lakes with the Ohio and Mississippi, required from two or three to ten millions dollars; and years must elapse for the country to settle and trade to develop before they would yield their maximum return. The new demand for capital was not only vastly greater

* Gallatin said in 1807: "Notwithstanding the great increase of capital during the last fifteen years, the objects for which it is required continue to be more numerous and its application is more profitable than in Europe. A small portion therefore is applied to objects which offer only the prospect of remote and moderate profit. And it also happens that a less sum being subscribed at first than is actually required for completing the work, this proceeds slowly, the capital applied remains unproductive for a much longer time than was necessary, and the interest accruing during that period becomes, in fact, an injurious addition to the real expense of the undertaking." *Report on Roads and Canals.*

than anything hitherto known, but it was for large masses of capital to be sunk, and therefore all risked in a single enterprise.

So much for the extent and character of the demand for capital which arose at this time. Let us see now what supplies of capital were available for investment in these enterprises. There were of course but two sources of supply,— the savings of our own people and such surplus capital as foreigners could be induced to lend us. Regarding domestic capital the situation had greatly improved during the generation prior to 1815. In the colonies, as in all new countries, there was no considerable fund of loanable capital. Such capital as existed was chiefly in the form of trading capital or shipping, and was used by its owners themselves rather than lent out by them to other persons. But even the trading capital of the colonies was by no means all owned by Americans. Adam Smith says that the greater part of the exports and coasting trade of the colonies was carried on by capital of merchants residing in the mother country; and even the warehouses and stores from which goods were retailed in some colonies, particularly in Virginia and Maryland, were owned by the same parties.* The complete lack of commercial banks in the colonies goes far to confirm the truth of this statement. Goods were sold on long credits of a year or more by English merchants, and the bills either carried by them until collected or else discounted by bankers in England. There was thus no basis for commercial banking in the colonies. It was estimated that Americans owed English merchants $28,000,000 for goods at the outbreak of the Revolution.† After the Revolution English merchants relied upon their ability to grant us longer credits than the merchants of other countries could give, to secure control of our trade; and the conditions which had preceded the war were promptly re-established.‡ Madison declared in 1785 that England had never monopolized the trade of Virginia more completely than she did at that time. The events which changed this situation were the outbreak of the wars in Europe

* *Wealth of Nations*, Bohn edition, vol. i. p. 272; Macpherson, *Annals of Commerce*, vol. iv. p. 581.

† Lecky, *History of England*, vol. iii. p. 333; Winsor, *Westward Movement*, p. 230; Hansard, *Parliamentary History*, vol. xvi. p. 133.

‡ Sheffield, *Observation on the Commerce of the American States*.

and the rise of the cotton industry. By throwing into our hands a vast carrying trade, and by supplying us with markets for cotton and food-stuffs, these events furnished Americans an opportunity to accumulate capital, which they eagerly embraced. The trading capital of the country now for the first time passed into the ownership of our own citizens, and it is significant that this period marks also the rise of commercial banking as well as of marine insurance in this country. The growth of our merchant marine, the numerous small manufactories which sprang up after the embargo, as well as the beginning of turnpike and bridge building, all indicate the progress which was made at this time in the accumulation of capital.*

Still another circumstance contributed to the increase of our resources during this period. The rapid payment of the national debt, both before and after the War of 1812, had the effect of augmenting the capital available for investment. Between 1815 and 1830 the government collected in taxes $123,500,000, and paid it over to the owners of its bonds. In this way small sums were taken from many individuals, and put into the hands of that class in the community who are by nature and habit disposed to save. If these small sums had remained in the hands of the people, they would, for the most part, have been spent, especially since the machinery for collecting small savings of large masses of people, such as is provided by the savings-banks and life insurance companies, did not then exist. Of course, so far as the national debt was owned abroad, its payment would not have the effect of increasing capital. On the contrary, it might have the opposite effect of driving capital out of the country, unless other securities could be furnished, which the foreign investor would be willing to purchase. As we shall see, such securities were

* "The proportion of capital to the demand for it, as might be expected, has been gradually improving in America during the last war (1792-1801). Though the legal rate is only 6 per cent., the market rate was from 12 to 20: at present it is a little more than the legal rate. Great assistance was derived from the establishment of banks and insurance companies. It may give the reader some idea of the commercial means of that country to know that in the year 1805 there were estimated to be 72 public banks with a capital of about $40,000,000 and 43 insurance companies with about $12,000,000 capital." Baring, *Inquiry into the Causes and Consequences of the Orders in Council*, p. 40 (1808).

provided by us during the period we were paying off our national debt most rapidly; and little, if any, foreign capital was lost by the payment of the debt.

It is evident from these facts that after 1815 this country had a considerable fund of domestic capital available for constructing its public works. In the newly settled communities of the West and South-west there was little or no such fund; but in the East, especially the southern New England and Middle States, and, to a less extent, in Virginia and South Carolina, it was possible to raise quite large amounts, enough probably to construct the more important works required. Certainly this was the case in New York, where the Canal Commissioners reported in 1817, that "they entertained no doubt but that as much money can be obtained in this country as may be required for the canals on the credit of the States, at an interest of 6 per cent., by the creation of a funded debt." All the earlier loans for the New York canals were made without difficulty; and the capital secured was chiefly, if not wholly, domestic.

But it was not upon domestic capital alone, or chiefly, that the country had at this time to depend. It was able to draw also upon Europe, and more especially upon England. This circumstance had so great an influence upon the movement we are studying that it calls for a full statement of the facts concerning it. We have seen that English capital in the form of trading capital came freely to America in colonial times and after. To some extent also it came in other kinds of investment, at least after the Revolution. Thus Hamilton noted in 1791 that several industries were owned largely by Englishmen; Pitkin estimated that $30,000,000 of our national debt was owned abroad in 1815; the United States Bank reported in 1809 that three-quarters of its stock of $10,000,000 was held by foreigners; and the commissioners appointed by New York to consider the practicability of a canal through the West said in their report of 1812 that, "notwithstanding the scarcity of money consequent on the wars which had so long raged in and ravaged Europe, a loan of $5,000,000 can be obtained there on the credit of the States." Obviously, even as early as this England was experiencing more or less diffi-

culty in finding at home profitable investments for the great volume of savings which the inventions and improvements of the last part of the eighteenth century enabled her to accumulate. The pressure of surplus capital was, however, not felt in its full force until the close of the wars in 1815. Up to that time the new savings had been absorbed by the growing manufactures, the agricultural improvements of the time, the expanding commerce, the increase of shipping, the building of canals and turnpikes, and, above all, by the expense of the wars. The national debt rose from £136,000,000 sterling in 1763 to £238,000,000 at the close of the American war, and £876,000,000 at the close of the French wars. The tax revenue was £19,000,000 in 1792 and £72,000,000 in 1815. At the close of the war the borrowing of the government ceased, and taxes were reduced. The total amount collected by the government from the people in loans and taxes fell from £108,000,000 in 1813 to only £52,000,000 in 1817. Most of this large sum which had been used to carry on the war, some £40,000,000 or £50,000,000 at least, suddenly had to find a new field for investment. There was no place in English industry where so much new capital could be employed. Commerce and the new manufactures continued to absorb a considerable amount of it; but the difficulty in finding a new market for a rapidly increasing product placed a stubborn limit to their rate of expansion. Conditions were still more unfavorable in agriculture, where landlords and farmers were unable for many years, even with the assistance of corn laws, to earn a fair profit on the capital already sunk in improvements. The canal system of the country was nearly complete. All the leading centres of industry were connected with each other and with the seaboard. Turnpike building progressed but slowly. Until the railroad should be introduced, the transportation system could absorb but little additional capital. Under these conditions the rate of interest must inevitably fall; and, to escape that fall, those who had savings to invest would be forced to turn to highly speculative investments at home or to lend their capital in foreign countries.

The hard times which set in immediately after the wars

checked accumulation, and postponed for a time the decline in the rate of interest. Conditions began to improve about 1820; and in four years 3 per cent. consols went up from 68 to 95. The government converted about £150,000,000 of 5 per cent. stock into a 4 per cent. in 1822, and two years later £70,000,000 of 4 per cents. into a 3½ per cent.* The growth of capital is shown also by the increase in property subject to the legacy duty. It was £28,000,000 in 1815, £29,000,000 in 1819, and nearly £36,000,000 in 1824. Speculation of the wildest kind now became rife. Stock companies were formed in great numbers to carry on enterprises at home and abroad; and few schemes were so visionary as not to receive financial support. Many companies were formed to work mines in the recently emancipated Spanish-American States; but the chief foreign investments were made in government securities. The conversion of the national debt had disturbed a large body of conservative investors, who now bought the securities of foreign countries rather than suffer a reduction of interest from 5 to 3½ per cent.† Large loans were negotiated in London by France and Russia in 1817;‡ and in the three years preceding 1825 more than £17,000,000 of the securities of Continental countries were purchased in London. Exaggerated accounts of the resources and good faith of the newly formed republics of Spanish-America induced a still larger investment in the securities issued by them.§

* Palgrave, *Dictionary of Political Economy*, vol. i. p. 404.

† For the opinion of the governor of the Bank of England concerning the effect of this conversion in unsettling investments see Gilbart, *Principles and Practices of Banking*, vol. i. p. 65.

The conversion carried out by Mr. Goschen in 1888 is supposed to have caused a similar transference of capital to foreign countries, especially to Australia and Argentina. *Journal of the Institute of Bankers*, April, 1894, p. 269.

‡ Tooke, *History of Prices*, vol. ii. p. 53.

§ The following is a list of foreign government loans made in London between 1822 and 1825. The *Economist*, October 18, 1845.

Denmark	£5,500,000	Chili	£1,000,000
Russia	3,500,000	Colombia	6,750,000
Austria	1,500,000	Peru	1,816,000
Portugal	1,500,000	Brazil	5,686,000
Greece	2,800,000	Mexico	6,400 000
Naples	2,500,000	Buenos Ayres	1,000,000
	£17,300.000	Guatemala	167,000
			£22,819,000

A writer in the British *Traveler* states that between 1815 and 1824 foreign loans to the amount of £91,300,000 sterling were taken in England. He placed the amount of American stock held in England at £3,600,000. Niles's *Register*, June 12, 1824.

Such was the situation which developed in England in a few years after the peace. It was not a temporary condition, but continued to prevail for many years. The crisis of 1825, and the hard times which followed it, checked accumulation, and relieved the pressure of surplus capital; but by 1827 improvement began, and in the next three years consols rose from 79 to 94, and the discount rate for first-class bills fell to the unprecedented low point of 2½ per cent. Another crisis came in 1839, followed by a few years of hard times; and then the same situation recurred again.* In fact, it was not until the railway building in the middle of the '40's, the introduction of the steamship and telegraph, and the great expansion of manufactures and commerce which followed the adoption of free trade, the gold discoveries, and the great emigration movement from Ireland and Germany, that England found an adequate field for the employment of new capital in her own industries. The whole period from 1815 to 1845 was therefore one in which the pressure of surplus capital was felt with great intensity. The economists, who had been saying with Malthus that the country was suffering from over-population, began during this period to complain of over-accumulation of capital as well. A group of writers, led by Torrens and Wakefield, maintained that continual accumulation of capital without new fields for enterprise was lowering the rate of profits, causing intense competition among capitalists for investments, and leading to reckless speculation and financial crises.† Under these conditions, Englishmen readily turned to foreign countries for investment.

A number of circumstances recommended the United States to English investors. In the first place the rapid payment of the national debt and its final extinction in 1832 strengthened American public credit as hardly anything else could have done. No other country had ever paid off a national debt,

* Consols were quoted at 89¾ in January, 1842, at 95 in 1843, at 97⅞ in 1844, and at 100⅛ in 1845. The rate of discount for first-class bills was below 2½ per cent. from September, 1842, to the end of 1844; and several times it went as low as 1¾ per cent.

† For the view of these men and others on the situation consult Torrens, *Corn Trade*, 3d edition; *The Colonization of South Australia; The Budget;* Wakefield, *England and America;* Buller, "Speech on Systematic Colonization," in Wakefield's *View of the Art of Colonization;* Malthus, *Political Economy.*

and it was felt that there could be little risk in lending money to a people whose resources were so great and whose disposition so frugal. Moreover, the enterprises for which capital was required in America were favorably regarded by the English public. From the point of view of the investor, canals in England had been very satisfactory. 80 companies, with a total capital of £30,000,000, reported in 1825 an average dividend of 5¾ per cent. 10 of these paid from 20 to 28 per cent. dividends; and the stock of 33 companies, representing one-third of the total mileage, was quoted at prices ranging from £200 to £300 per share, and a few as high as £600 and £800.* American canals could hardly hope to prove so profitable as this; but they did not seem at all visionary enterprises, and the financial success of the early ones created great confidence in them.† Towards the banking enterprises of the South-west English capitalists were equally well disposed. England was interested in securing a steady increase in the supply of raw cotton, and in making loans to the South-west for banking purposes she was in reality investing her capital in the same great industry which was the basis of her manufacturing system. Moreover, banking in America had proven very profitable. Englishmen had invested heavily in the stock of the First and Second United States Bank, had received large dividends, and suffered no losses. More and more, therefore, her capitalists after 1815 turned to this country; and by 1830 they seemed ready to supply us with all the capital necessary to complete our system of canals and railways, as well as to assist in the development of our agriculture.‡

* *Quarterly Review*, vol. xi. p. 170; Congressional Document, House Report No. 101, 1st session, 22d Congress, p. 271.

† The revenue of the New York canals increased from $531,000 in 1825 to over $1,000,000 in 1830, and the State was unable to pay off its bonds as rapidly as the revenue accumulated. By 1834 it was actually buying up its canal bonds at a premium of from 5 to 9 per cent.

The Schuylkill Navigation Company was paying 8 per cent. dividends, and the stock was worth 180. The Delaware & Hudson was paying 7 per cent. dividends, and the Lehigh Navigation Company was doing almost as well. House Report No. 414, 1st session, 23d Congress, pp. 39, 285, 295. Hazard's *Register of Pennsylvania*, vol. xii. p. 185.

‡ The following circular, issued by the banking house of Baring Brothers & Co. in the latter part of 1839, when the credit of the States was somewhat impaired, shows what had been the disposition of English capitalists towards America: "I do not doubt but that such gradual purchases will continue, of the stock of the well-

It is impossible to ascertain with accuracy the amount of English capital which found its way to this country during this period. Webster thought there might be $50,000,000 of State stock owned abroad in 1836. Two years later Mr. Garland submitted to the House of Representatives a list of our stocks owned abroad which put the total at $110,000,000.* President Van Buren in his message of 1840 placed the amount at $200,000,000, and the annual interest charged at not less than $12,000,000. A committee of the House of Representatives a few years later estimated the amount of State securities purchased by foreigners at nearly $150,000,000.† Besides this amount, $28,000,000 of the stock of the United States Bank and $9,000,000 of the stock of the Farmers' Loan and Trust Company, the Camden & Amboy Railroad, and the Commercial Bank of Vicksburg, was owned abroad.‡ Mr. Garland's estimate shows a further sum of about $19,000,000 of the stock of various corporations, chiefly banks, owned abroad. These estimates cannot be verified, but they show that the movement of foreign capital to this country for the purchase of our securities was large.

Not only did foreigners purchase a large amount of our securities, but foreign capital came to us also through the medium of commercial credit. We have seen that during the twenty years prior to 1815 Americans had come to own their own trading capital. In the later '20's, however, we again began to make use of foreign capital in our commerce. Before this

known States which do not over-issue and which faithfully meet their engagements with their creditors, as the confidence in the resources and the national honor of the United States remain undiminished in this country, as well as the conviction that by such investments England employs her annual surplus of capital both safely and profitably, encourages her best customers, and binds more closely the ties of mutual interest between the two countries. But, if the whole scheme of internal improvements for the Union is to be carried into effect on the vast scale and with the rapidity lately projected and by the means of foreign capital, a more comprehensive guarantee than that of the individual States will be required to raise so large an amount in so short a time. A national pledge would undoubtedly collect capital together from all parts of the world." Hazard, *United States Commercial and Statistical Register*, vol. i. p. 405.

* Niles's *Register*, vol. liv. p. 22.

† House Report No. 296, 3d session, 27th Congress.

‡ Sumner, *A History of Banking in the United States*, p. 342; Niles's *Register*, vol. liv. p. 362; Armstrong, *Stock Jobbing in Wall Street*, p. 29; Ringwalt, *Transportation System of the United States*, p. 79.

it had been the practice for English merchants to execute orders for America, and transmit the invoices and bills of lading to their agents in America, who then delivered the goods on receipt of payment. The wealth and financial standing of American houses increased to such an extent that they began to establish their own agents in the manufacturing districts of England and the Continent for the purchase and shipment of goods to America. They were able also to obtain credit with the great Anglo-American houses in London or Liverpool, who would then allow the agents to draw upon them at four months to pay for the goods purchased and shipped to America. This arrangement was also introduced into other branches of our foreign trade, notably with India, China, and South America. American merchants were allowed to pay for their cargoes from those places by means of bills on London, which were allowed to run until met by the export of American produce.* The system practically amounted to this: Englishmen bought nearly all of our products for cash, sold their own to us on credit, and in addition supplied us with letters of credit against which we could draw in all parts of the world. The effect of such an arrangement would obviously be to replace American capital engaged in foreign trade by English capital supplied by the great Anglo-American mercantile houses in London and Liverpool or by the numerous joint stock banks which eagerly discounted the paper of these houses.† The American capital thus liberated from trade became available for carrying on the various improvements within the country. The amount of capital thus lent to us on commercial account may be estimated from the acceptances of these Anglo-American houses, which in 1836 were said to amount to £20,000,000. If we add this to the amount invested in our securities of

* For an account of this method of doing business see *Edinburgh Review*, No. 132, p 229; *Bankers' Magazine*, London, vol. xiv. p. 601; R. B. Curtis in *North American Review*, vol. lviii. p. 112; and President's Message to Congress, December, 1839.

† There were seven of these houses, six in London and one in Liverpool. *Edinburgh Review*, No. 132, p. 229; Niles's *Register*, vol. lii. p. 232.

Webster said in 1836, "It is certain that a large amount of property now afloat in ships and goods owned by Americans and sailing and transporting on American account is put into commercial operation by means of foreign capital actually advanced or acting through the agency of credit." *Works*, vol. iv. p. 261.

various kinds, it is safe to say that nearly three hundred million dollars of foreign capital was lent to this country between 1815 and 1840.

The American people were perfectly aware of the possibility of securing foreign capital at this time. New York from the first looked to this source to secure the funds necessary for her canals; Ohio did likewise;* and Louisiana and the city of New Orleans, in the early '20's, were negotiating loans in London. The success of these first loans encouraged others; and after 1830 the whole country looked to England for capital to carry out its system of internal improvements, just as Australia and Argentina have relied upon the same sources in later times. A large number of the public works were planned with this prospect clearly in view, and would not have been undertaken without it. Events proved that the works could not be carried on after foreign capital ceased to be lent freely to them. When the market for American securities in London failed towards the end of 1839, work on public improvements in most of the States was checked, and ceased altogether in several of the Western States. The Wabash & Erie Canal in Indiana and the Illinois & Michigan Canal in Illinois were not completed until an arrangement was made with English capitalists some years later to supply the funds.

Such was the situation regarding the demand for capital in this country, and the supply of it during the period we are investigating. We come now to the question how far private enterprise was able to deal with this situation. The means by which the large masses of capital required by modern industry is brought together is the corporation; and we have next to examine the condition of corporations, and ascertain how far they were able to perform the services required of them. Private business corporations began to be created in this country soon after the Revolution; and their rise was undoubtedly due to the growth of industries which required more capital than could be easily supplied by individuals or partnerships.† The industry in which they first appeared,

*See *Public Document concerning the Ohio Canal*, pp. 84-95.

†It is the opinion of a recent writer "that private business corporations were always viewed with disfavor by the mass of the community in every American

and in which for many years the most important ones were to be found, was banking. Congress chartered the Bank of North America in 1781, and the next year Pennsylvania and New York each granted it a charter. By 1791 most of the States had chartered one or more banks, and the federal government the Bank of the United States. Ten years later there were 88 State banks, and in 1830 330.* Insurance companies grew up about the same time, and became very numerous as the commerce of the country expanded after the outbreak of the European wars.† There were 29 companies in the city of New York in 1830, 19 in Boston, 13 in Philadelphia, and 6 each in Baltimore and New Orleans.‡ When the people turned their attention to improving the transportation facilities of the country, a large number of companies for that purpose were formed. Virginia chartered 2 canal companies in 1784, and several were chartered by Pennsylvania, New York, and Massachusetts by the end of the century; but canal companies were never numerous in any of the States, and, as already pointed out, in very few cases accomplished the purposes for which they were formed. Far more important and more numerous were the turnpike and bridge companies, the first of which was chartered by Pennsylvania in 1792, and which after 1800 were created in great numbers by all the States north of Maryland and to some extent by the Southern States. By 1812 Pennsylvania had chartered 57,

colony, and also in the States which succeeded them, until the end of the eighteenth century." Baldwin, *Modern Political Institutions*, p. 199.

It is true that hardly any such corporations existed in the colonies, but there was very little demand for them. As soon as industries arose which needed them, the legislatures of the different States began to charter them in great numbers. The development of corporations may therefore be traced in the statutes of the States; and the statements in the text are chiefly based upon an examination of the statutes of the more important States, like Massachusetts, Pennsylvania, Connecticut, Maryland, Virginia, and South Carolina.

* Gallatin, *Considerations on the Currency and Banking of the United States.*

† Pennsylvania chartered an insurance company in 1786, Virginia in 1792, Maryland in 1794, Connecticut in 1797, New York and Massachusetts in 1798. From this time on the number chartered was very great. Massachusetts chartered 23 by 1805, and 7 more by 1812. New York chartered 15 by 1812.

‡ Russ, *Calculations and Statements of the Trade between Great Britain and the United States of America.*

This book contains a list of the principal joint stock companies existing in 1830 in twenty-five of the largest cities.

New York 112, Massachusetts 78, Maryland 8, Virginia 8. Pennsylvania also chartered 21 bridge companies during the same period, and they were nearly as numerous in other States.* In the same way, when the embargo turned the attention of the Northern States to manufacturing, corporations for that purpose made their appearance, especially in New England and New York. 5 or 6 such companies were chartered in Massachusetts before 1808, but 106 were chartered between that time and 1815; and in New York 47 were chartered in the six years following 1809. Water companies also appeared about this time. 26 were chartered in New York before 1812, and 21 from that time to 1829. Steamboat companies were also created in considerable numbers as the introduction of steamboats took place.

Thus by 1830 business corporations of various kinds were very numerous in this country, and the American people had already shown remarkable facility in forming them. De Tocqueville declared that

> The most democratic country on the face of the earth is that in which men have, in our time, carried to the highest perfection the art of pursuing in common the object of their common desires, and have applied this new science to the greatest number of purposes.†

Nevertheless, a little consideration of the extent and character of the business operations of corporations at this time will show that they were not yet able to raise very large sums of capital, especially for such enterprises as were then most prominent. Much the largest corporations were banks; and, with the exception of the United States Bank, there was but one that had as large a capital as $2,900,000. Of the 330 State banks, only 7 had as much as $2,000,000 capital, and only 30 as much as $1,000,000.

*I have not counted the acts in all the States, but have glanced over the statutes to make sure that such acts were numerous.

† "Americans of all ages, all conditions, and all dispositions, constantly form associations. They have not only commercial and manufacturing companies, in which all take part, but associations of a thousand other kinds,—religious, moral, serious, futile, general or restricted, enormous or diminutive. ... Wherever, at the head of some new undertaking, you see the government in France or a man of rank in England, in the United States, you will be sure to find an association." *Democracy in America*, vol. i. p. 129.

Several of the largest of these were in the South, and were heavily subsidized by the States. Insurance companies were still smaller. New York had two with $1,000,000 capital, and New Orleans one; Philadelphia had one with $600,000; and in all the rest of the country there were only fifteen with a capital of half a million dollars. The great majority of both banks and insurance companies were small concerns with less than $100,000 capital.* Two or three of the big textile manufacturing companies of New England had about a million capital in 1830; but, for the most part, manufacturing companies were even smaller than insurance companies.† It would appear from these facts that no great difficulty was experienced in raising from half a million to one or two millions of capital for banks and insurance companies. But it should be noted that all the larger companies of this kind were organized in the commercial cities, where most of the loanable capital of the country was owned. The capital was supplied chiefly by the business men of the cities where they were organized. Except in the West and South, where State aid to banks was common, banking corporations did not have to attract capital from a distance or collect it from a great many small sources in different communities. Moreover, in neither of these industries was the capital actually sunk in a single industrial undertaking; it was in reality divided in loans among a great number of different industries, chiefly commercial, and for that reason involved much less risk than industries requiring large fixed capital. The conditions for the formation of corporations were, therefore, very favorable in these industries. To a great extent, conditions were

* Gallatin, *Considerations on the Currency and Banking System of the United States;* Ruess, *Calculations and Statements of the Trade between Great Britain and the United States;* Martin, *Boston Stock Market.* Of the 20 companies chartered by Massachusetts between 1802 and 1805, 5 had an authorized capital of $300,000, 9 of $100,000 or less, and the rest amounts between these two extremes. In New York the companies chartered before 1812 had authorized capital of from $200,000 to $500,000; those between 1319 and 1821 were all below $500,000.

† Martin, *Boston Stock Market*, pp. 96-98. Of the 21 companies chartered in New York in the years 1811 and 1812, only one had an authorized capital of half a million, and most only $100,000. The general act of New York passed in 1811 limited the capital of all companies formed under it to $100,000. Of the 11 companies chartered in Massachusetts between 1808 and 1810, 3 had authorized capital of $250,000, and all the rest were below that amount.

also favorable to the formation of manufacturing companies. The amount of capital necessary to establish a manufacturing industry was not large, and could be easily supplied by a few men. The stock of manufacturing companies was usually owned by the men directly interested in the enterprise, and was rarely bought and sold. It was not quoted on the Boston stock market before 1827, and in 1830 the stock of only six of the largest companies was dealt in there.* In the case of turnpike and bridge companies it would seem that no great difficulty should have been experienced in raising the small amount of capital which they required. Nevertheless, one State at least, Pennsylvania, found it advisable to adopt the policy of subsidizing turnpike companies as early as 1806, and bridge companies in 1811. By 1822 that State had subscribed $1,861,000 to the stock of fifty-six turnpike companies, and $382,000 to the stock of twelve bridge companies.† South Carolina also expended about two million dollars of State funds on turnpikes and canals. We have already seen how few of the canal companies formed before 1815 succeeded in accomplishing very much. The Middlesex in Massachusetts and the Santee & Cooper in South Carolina were the only important ones not assisted by the States. They were comparatively small undertakings, requiring only a little over half a million dollars each. The State of New York supplied most of the capital of the Western & Northern Inland Lock Navigation Company, and Maryland and Virginia did the same for the Potomac and the James River Companies. Companies that received no public assistance, like the Delaware & Chesapeake in Maryland and the Delaware & Schuylkill and Schuylkill & Susquehanna in Pennsylvania, were unable to accomplish anything worthy of notice. In the later '20's a number of canals were built by private companies, with

* By 1846 this number had increased to forty-six, which indicates that at that time capital for manufactures in New England at least was being drawn from a much wider source than was the case before 1830. Martin, *Boston Stock Exchange*, p. 87.

† Duponceau, *Laws of the Commonwealth of Pennsylvania*, vol. vii. p. 416. The amount of private capital in the same companies was, respectively, $4,580,000 and $1,629,000. The State had also invested $130,000 in the stock of three canal and navigation companies, whose private capital amounted to $1,416,000.

little or no assistance from the States. The Blackstone and Farmington Canals in New England, the Morris Canal in New Jersey, and the Lehigh Navigation in Pennsylvania were constructed entirely with private funds. The Schuylkill Navigation and the Union Canal Companies received small subscriptions of stock from Pennsylvania; New York contributed $800,000 to the Delaware & Hudson Canal; and the federal government, Pennsylvania, Maryland, and Delaware, $475,000 to the Delaware & Chesapeake Canal, which was resumed in 1824. The largest of these were the Delaware & Hudson Canal, which cost $2,300,000, and the Schuylkill Navigation, which cost $2,190,000. The Blackstone and Farmington Canals were estimated to cost about half a million dollars each, and the others ranged from a million to a million and a half.*

From these facts it is safe to conclude that corporations before 1830 were not able to raise any large amounts of capital without public assistance. This was not due to a lack of adequate supplies of capital, as we have seen. The difficulty related rather to the means of securing control of the existing supply,— of inducing its owners to invest it in the various enterprises of the day. The nature of that difficulty will be apparent if we consider for a moment the position and character of the persons who did the saving and supplied the capital for the community at that time. So far as domestic capital was concerned, there was no large class of persons, who on account of large incomes were willing to devote a part of their savings to risky investments or to those from which a return must be slow as well as uncertain. Such capital as existed was chiefly in the hands of small savers, who were naturally more interested in security than in the chance of large returns. There was no doubt a certain number of persons affected by the gambling spirit, as the prevalence of lotteries goes to show. There was also a considerable number of speculators pure and simple,— men who buy and sell, making or losing from the fluctuations of prices. But there were very few speculative investors,— men who devote a part of

* *A Connected View of the Whole Internal Navigation of the United States*, Philadelphia, 1830; *American Almanac for* 1830, p. 223.

their savings to investments involving great risk and requiring long periods of time to yield a return. This latter type of person is very numerous in this country at the present time; and, as a result, there is a great amount of savings constantly seeking new and uncertain investments. The existence of this speculative fund renders it certain that every project which offers even a remote chance of success, be it either the expansion of an old industry or the establishment of a new one, will receive a thorough trial. In the early part of the nineteenth century such persons were comparatively few. Consequently there was no such speculative fund, and no such assurance that promising industrial experiments would be tried. It is this difference which made the argument for protection to infant industries have so great force in the time of Hamilton and Clay, and gives it so little in our own time.

Regarding foreign capital the situation was somewhat different. There were many people in England ready to risk their capital in all sorts of uncertain undertakings rather than accept the inevitable fall in the rate of interest, as the wild speculations which preceded the crisis of 1825 abundantly proves; but, from the nature of the case, before modern means of communicating came into existence a foreigner could have but an imperfect knowledge of the character of the enterprise for which his capital was sought. He could not acquire the knowledge necessary to judge the merits of the project he was asked to support. Consequently, it was necessary, in order to secure his capital, to offer him a pledge of the faith and credit of some individual or combination of individuals who were able to command his confidence, as well as to present a promising enterprise. Accordingly, we find that English foreign investments in the early part of the nineteenth century were made chiefly in public securities. The stock and bonds of private corporations formed in foreign countries, unless indorsed by the government, played but a very small part on the London stock market until after the middle of the century. It was the public securities of the European countries, the Spanish-American Republics, and the American States, which were chiefly purchased by the English capitalists. The only American corporation whose securities were well known in Europe before 1830

was the United States Bank, and even ten years later only about a dozen American corporations had sold any of their securities there.*

Such were the conditions regarding the demand for capital, the available supply of it, and the ability of corporations to secure control of large masses of it, during the first thirty years of the century. With these facts before us, the chief reason for making use of the powers of the State in industrial affairs, which was noted at the beginning, becomes clear. The opening of the West gave rise to an enormous increase in the demand for capital, chiefly to provide works of internal improvement. To construct any of the more important of these works required several millions of capital,—an amount far greater than had been brought together in any industry in this country up to that time. For corporations to secure so much capital it was necessary to bring together the many small savings of this country; and to attract the large ones of foreigners. There was no body of private individuals in the country well enough known and with sufficient influence in the business world to establish the credit of a corporation so that it could command the confidence of both these classes of investors. The only securities that could do this were public securities, or the securities of corporations which were guaranteed or assisted by the government. American public credit had been raised to the highest pitch by the debt-paying policy of the federal government; and it was inevitable that the American people should turn to the only means in their power to provide for their needs. When New York demonstrated that it was easy to secure all the capital necessary for carrying out public works by the issue of bonds on the credit of the State, the way was open for other States to pursue the same course; and only New Jersey and the smaller New England States refused to enter upon it.

* The following is a list of all the corporations whose stock was purchased by foreigners, so far as any mention of the same appears in the financial periodicals of the time: the United States Bank; the Morris Canal Company; Delaware & Raritan Canal Company; the Camden & Amboy Railroad; Louisiana State Bank; the Bank of Louisiana; New Orleans Canal and Banking Company; Mississippi Planters' Bank; the Tennessee Banks; New York Life Insurance and Trust Company; American Life Insurance and Trust Company; North American Banking and Trust Company; Manhattan Bank; Commercial Railroad Bank of Vicksburg; Cairo City Company.

The crisis of 1839, and the subsequent embarrassment of the States, ruined public credit for a time, and put an end to the movement. In the older States of the North, like Massachusetts, New York, and Pennsylvania, it was never resumed, except in the case of the enlargement of the Erie Canal and the building of the Hoosac Tunnel. In the West and South, however, where capital was more difficult to secure, public assistance to railways was resumed in the later '40's, and continued in some sections until comparatively recent times. In the West this assistance was granted in the shape of subsidies by counties, towns, and cities. In the South, however, the States also took part in it. Virginia, South Carolina, Tennessee, and Missouri created debts aggregating over $80,000,000 for this purpose between 1848 and the Civil War. South Carolina, Georgia, and Louisiana were fairly started on the same course when the war broke out; and, after the war, under the reconstruction governments, all the Southern States adopted the policy on a large scale. Local bodies were also active. Hardly a Southern city of any importance failed to make grants of aid to railway lines in which they were especially interested. In Louisiana, Mississippi, and Kentucky general acts were passed granting permission to the counties to issue bonds for this purpose. During the same time the federal government made large grants of land to the States, which were turned over to railway companies; and, in one case, the Union and Central Pacific Railways, gave bond subsidies as well. Thus so long as corporations found difficulty in raising the capital required to build railway lines, the credit of the national, State, and local government was freely used to assist them.

III.

The question naturally arises now whether this movement at the beginning was due entirely to the difficulty of securing sufficient capital by means of private enterprise. Was there no feeling on the part of the American people that the business of supplying transportation and banking facilities could not be safely intrusted to private enterprise? Was there no wide-spread public opposition to corporations as such? To

answer that question, it is necessary to examine the discussions which preceded the various public enterprises as they appear in the messages of governors, the reports of legislative committees, and the Congressional debates on internal improvements. Such ideas were not entirely absent from these discussions. Thus the New York Canal Commissioners in their first report on the Erie Canal devoted a few remarks to the question of whether the canal should be built at public or private expense, and protested against a grant to private persons or companies: —

> Too great a national interest is at stake. It must not become the subject of a job or a fund for speculation. Among many other objections there is one insuperable,— that it would defeat the contemplated cheapness of transportation. It should always, on occasions of this sort, be recollected that the reasons adduced for grants to individuals in Europe apply inversely here. Few of our public citizens have more money than they want, and, of the many who want, few find facilities for obtaining it; but the public can readily, at a fair interest, command any reasonable sum. Moreover, such large expenditures can be more economically made under public authority than by the care and vigilance of any company.

The Ohio Canal Commissioners in 1825 reported in favor of State construction rather than grants to corporations, and gave the following reasons for their opinion: —

> Our jurisprudence, which borrows its principles and reasons from England, has vigorously adopted this doctrine of immortality of corporations, naturalized and established it as law in our free government, and stretched over its dogma the ægis of the Constitution, so that now whatever is granted to a private corporation by the legislature is holden to be intangible and irrevocable. . . . Nothing can be more interesting to the whole community than the great navigable highways through the State from the lakes to the Ohio River on the routes proposed. It does not consist with the dignity, the interest, or the convenience of the State that a private company of citizens or foreigners (as may happen) should have the management and control of them. The evils of such management cannot be fully foreseen, and therefore cannot be fully provided against. . . . Besides, such works should be considered with a view to the greatest possible accommodation to our citizens; as a public work, the public convenience is the paramount object; and a private company will look only to the best

means for increasing their profits. The public convenience will be regarded only as it is subservient to their emolument. We think, therefore, that it would be extremely hazardous and unwise to intrust private companies with making these canals which can be made by the State.

The first American work on political economy published in 1820 contained a chapter on corporations, which was decidedly hostile to them. Its author declared that

> Every moneyed corporation is *prima facie* injurious to the national wealth, and ought to be looked upon by those who have no money with jealousy and suspicion. They are, and ought to be, considered as artificial engines of power, contrived by the rich for the purpose of increasing their already too great ascendency and calculated to destroy that natural equality among men which no government ought to lend its power in destroying. The tendency of such institutions is to cause a more unequal division of property and a greater inequality among men than would otherwise take place.*

Such opinions as these indicate the existence of a certain amount of opposition, not only to the corporate control of important works of transportation, but also to corporations themselves. The popular opposition to the United States Bank in Jackson's time was, no doubt, to some extent due to this hostile feeling, although it should be noted that many of the States, which denounced that institution as a monster corporation, did not hesitate to create State banks of several millions capital, and to give them a complete monopoly of the banking business within their territory. These views were, however, far from representing the prevailing attitude of the people. They appear but rarely in the public discussions, are nowhere discussed in detail, and do not appear to have had much influence in determining legislation. The readiness with which the legislatures of all the States created corporations for all sorts of purposes, whenever they were called for by individuals, in many cases granting the privilege of limited liability, shows that the opposition to corporations as such was insignificant.†

* Raymond, *Political Economy*, Part II., chap. vi.

† New York limited the liability of stockholders of manufacturing companies to an amount equal to the value of their stock in 1811. Connecticut granted full limited liability to such companies in 1817, and Massachusetts in 1830. Maryland

The considerations which received the principal attention, and which chiefly determined the policy pursued, were of an entirely different nature. They related to the utility to the community of the various improvements contemplated, and to the inability of private enterprise to secure the capital to construct them. Long arguments were presented to show that the benefits to be derived by the community at large from such improvements were sufficient to justify their construction at public expense, even though private capital should not find it profitable to undertake them. A good statement of these views was made by Clay in the Congressional debates on internal improvements in 1818: —

> In regard to internal improvements, it would not always follow that they would be constructed whenever they would afford a competent dividend upon the capital invested. It may be true generally that in old countries, where there is a great accumulation of surplus capital and a consequent low rate of interest, they would be made. But in a new country the conditions of society may be ripe for public works long before there is, in the hands of individuals, the necessary accumulation of capital to effect them. . . . Further, the aggregate benefit resulting to the whole society from a public improvement may be such as to amply justify the investment of capital in its execution; and yet that benefit may be so distributed among different and distant persons that they can never be got to act in concert. The turnpike road wanted to pass the Alleghany Mountains, and the Delaware and Chesapeake Canal, are objects of this description. Those who would be most benefited by these improvements reside at a considerable distance from the sites of them. Many of those persons never have seen and never will see them. How is it possible to regulate the contributions, or to present to individuals so situated a sufficiently lively picture of their real interest to get them to make exertions, in effecting the object, commensurate with their respective abilities? I think it very possible that the capitalist who should invest his money in these objects might not be reimbursed 3 per cent. annually upon it; and yet society, in various forms, might actually reap 15 or 20 per cent. The benefit resulting from a turnpike road made by private associations is divided between the capitalist, who receives his toll, the lands through which it passes and which

granted it to banks as early as 1804, and Virginia and Connecticut to insurance companies still earlier. New York and Connecticut in 1811 and 1817, respectively, allowed individuals to form manufacturing corporations without special act of the legislature.

are augmented in their value, and the commodities whose value is enhanced by the diminished expense of transportation. A combination upon any terms, much less a just combination of these interests, to effect the improvement, is impracticable; and, if you await the arrival of the period when the tolls alone can produce a competent dividend, it is evident that you will have to suspend its execution until long after the general interest of society would have authorized it.*

Such reasoning as this may be found in the public documents of most of the States which adopted the policy of internal improvement. Sometimes it appears in the discussions which preceded the construction of the works, and sometimes it is used to justify that policy after experience had shown that the tolls were not sufficient to pay the interest on the public debt created to carry it out. The Ohio Canal Commissioners at the outset of their enterprise, after expressing their opinion that the construction of the canals would be a prudent investment of capital, declared that

a more important and interesting inquiry is what are the advantages which the people of this State may derive by the construction of navigable canals.

After the canals had been finished, they laid still greater stress upon the fact that, in estimating their value to the State, the revenue accruing from tolls was a matter of secondary importance. By taking the amount of tonnage received and exported from either end of the canal in 1832, and estimating the rise in the price of exports and the fall in the price of imports, they reached the conclusion that the aggregate saving to the people had amounted to $312,000; whereas the taxes raised to pay interest on the canal amounted to only $143,000. The governor of Virginia in 1850 said: —

The policy which has heretofore controlled the action of the legislature in contributing to works of improvement has looked rather to the benefit to be derived from increased and enhanced value of lands than to returns in the form of tolls to the treasury. The wisdom of the policy stands fully vindicated by the recent assessment of land in the commonwealth, which shows an increase of 29½ per cent. upon

* *Annals of Congress*, 1817-18, p. 1377.

the entire landed property during the last twelve years, . . . while the increase between the assessments of 1819 and 1838 was only 2½ per cent.*

It is safe to say that these extracts express the prevailing opinion of the people towards the policy of internal improvements. That movement was not, therefore, due to any modern socialistic or populistic idea that the business of supplying transportation and banking facilities to the community was not a safe and legitimate one, to be left to the management of private enterprise. As a matter of fact, only a part of the States undertook the actual construction and control of such works. This was the policy of New York, Pennsylvania, Ohio, and the North-western States, excepting in the case of one or two canals and railways and all the turnpikes; but Massachusetts, Maryland, and the Southern States generally pursued the policy of chartering corporations to carry out the works, and assisting these corporations by subscriptions to their stock or by loans of State credit.† After the crisis of the early '40's, all the States pursued this policy of assisting corporations. It required the experience of later years with the evils of unrestricted private railway management, the rise of labor difficulties, and the appearance of monopolies and trusts in many industries, to teach the American public that private enterprise might sometimes require to be restricted and controlled rather than stimulated, in the interest of public welfare. Down to the Civil War, except in case of the banking industry, the powers of the government were used to encourage and assist private enterprise, not to restrict it.

It remains to add a few words further concerning the connection of the States with banking enterprises. It has already been pointed out that nearly all the States invested public funds, derived either from revenue or from the sale of State bonds, in the stock of banking corporations. The motive which caused this wide-spread connection of the States with banks was not, however, the same in all sections of the country. In the older

* Compare also the prospectus issued by the convention held to promote the Chesapeake & Ohio Canal, in House Report No. 414, 1st session, 23d Congress, p. 13.

† Virginia first chartered a company to construct the James River & Kanawha Canal, and subsequently made it a State work; Kentucky constructed her river improvements; and Georgia built the Western & Atlantic Railway.

States, both North and South, it was not primarily, if at all, due to a desire to encourage the growth of banking. Banks needed no such encouragement in those States. On the contrary, they were regarded as very profitable enterprises, and the investment of capital in them as a distinct privilege. In New York, at least, the struggle of individuals to secure charters from the legislature gave rise to political corruption. Many of the early charters contained provisions for the investment of educational funds in bank stock. The early Connecticut charters provided that "the bank shall at all times be open for subscriptions at the rate of one hundred dollars for each share from the school fund of this state, and from the funds of any college, ecclesiastical society, school, or corporation for charitable purposes within the state." Several New York charters contained similar clauses. The act which rechartered the Bank of New York in 1813 authorized the Comptroller of the State to subscribe $15,000 to the stock of the bank for the benefit of the common schools; and the treasurers of Hamilton, Union, and Columbia Colleges, were given the right to subscribe a similar amount for the benefit of these institutions. Banking privileges were frequently given to companies formed for the purpose of carrying out canals and railways, as in case of the Morris Canal Company, the Central Railway and Banking Company of Georgia, and the South-western Railroad Bank of South Carolina. Clearly, the banking business was looked upon as in some way exceptionally advantageous to the investor; and the devotion of the surplus public revenue to the purchase of bank stock was simply a device for increasing the revenue of the State.

In the newer States, where capital was more scarce, other motives played a considerable part. The people were anxious to furnish a circulating medium, and also to provide banking accommodations to the commercial classes, as well as loans to farmers. But in all, except the cotton States of the Gulf region, the desire to secure for the benefit of the public the large profits to be earned in the banking business was an important, if not the most important, motive which led the States to invest in these industries. Thus, when Indiana and Illinois began their system of internal improvements, they

both increased the capital of certain banks, and authorized the States to subscribe for the new capital. In Illinois the act which authorized this action was entitled "an act to increase the capital stock of certain banks, and to provide means to pay the interest on a loan authorized by an act entitled 'an act to establish and maintain a general system of internal improvements.'" These States could borrow money at 5 or 6 per cent. interest, and the banks earned from 7 to 9 per cent. dividends. They found it profitable, therefore, to provide for the payment of a part of the interest on their internal improvement debts by selling bonds and investing the proceeds in bank stock. A similar motive influenced the action of Kentucky and Tennessee. The governor of Kentucky urged the legislature to subscribe for bank stock in order to provide funds for a system of public education; and the act which established the Bank of Tennessee, in which the State invested $1,500,000, was entitled "an act to establish a state bank to raise a fund for internal improvements, and to aid in a system of education."

In the South-west the situation was different. The demand for capital here, and the difficulty of obtaining it, were, perhaps, greater than in any other part of the country. It is true there were no important works of internal improvement undertaken, except in Louisiana, where the State issued $1,200,000 worth of bonds to assist railroad companies. But the character of agriculture gave rise to a very great demand for capital. The plantation system carried on by slave labor is a highly capitalistic form of industry. Not only has labor to be employed on a large scale, but the planter has to purchase the labor outright, as well as to maintain it from year to year. This involves an enormous initial expense to the person who begins cotton or sugar culture with slave labor. As the planter's crop is marketed but once in the year, it is necessary for him to have large supplies of provisions on hand before these provisions can be paid for from the proceeds of his crop. The Southern planter was therefore more like a man engaged in manufacturing or commercial business than like a Northern farmer, and, like the manufacturer and merchant, required from time to time advances of capital to

enable him to carry on his business. When it came to settling a new country with such a system of agriculture, the demand for capital became still greater. The hardy settler of the North-west could move into the wilderness with his family and gain a livelihood for them from the first, while he cleared his land and prepared it for cultivation; but the planter had to maintain his slaves while the land was being cleared and the first crop produced, which would require at least a year and often more. The capital required to supply this demand not only did not exist in these new States, but it could be supplied to only a limited extent from older slave States, since slavery prevented that accumulation of capital which would have taken place in a free community possessing the same favorable economic conditions.

The planters of this region had therefore to attract capital from the North and from Europe; and for this purpose the credit of individual planters or of such corporations as could be formed in a new country was as inadequate as it was in Northern States to secure funds for canals and railways. Nothing was left but to make use of public credit to supply this deficiency; and every new slave State in the South from Florida to Arkansas established one or more banks and supplied all or nearly all of their capital by a sale of State bonds. Many of the banks were known as "property banks," and were designed especially to furnish loans to planters. The business of all of them consisted in providing the capital for producing and marketing the cotton and sugar of this region.* Thus in the South-west, where nature already provided an adequate system of transportation, the State banking enterprises formed the counterpart of the internal improvement movement of the North and East.

G. S. CALLENDER.

BOWDOIN COLLEGE.

*Trotter, *Observations on the Financial Position and Credit of the States of the North American Union*, chap. vi.

THE "ROUNDABOUT PROCESS" IN THE INTEREST THEORY.

SECT. 1. THE NATURE OF THE INTEREST PROBLEM.

Professor Eugene von Böhm-Bawerk's critique* of the older interest theories marks a new era in economic thought. The highest point attained in his more positive discussion is his statement of the real nature of the interest problem, as that of the exchange of present goods against future goods. This thought was an inspirational break with the past, and was charged with possibilities for the future of economic theory.

Nevertheless, Böhm-Bawerk has failed to formulate a consistent and satisfactory theory of interest. A statement of the nature of the problem and a solution of it are not the same. The English translator implies his belief that they are when he calls this statement "the essence" of "Böhm-Bawerk's theory of interest"†; the author likewise appears to identify the two when, in his *Positive Theory*,‡ he says: "Present goods are, as a rule, worth more than future goods of like kind and number.§ . . This proposition is the kernel and centre of the interest theory which I have to present." This, however, is but the fact which the interest theory is to explain logically. The proposition is not open to question: it is a novel, but unquestionably better, way of stating the nature of the problem. Explanations may differ after the nature of the problem is well agreed upon. Böhm-Bawerk shows not only in manifold expressions, but by devoting several hundred pages to setting forth his theory of interest,

* *Capital und Capitalzins*, Innsbruch, 1884. The second edition, Innsbruch, 1900, is reviewed by F. A. F. in the *Journal of Political Economy*, January, 1902. The English translation of the first edition, cited in this article, bears the title *Capital and Interest*.

† *Capital and Interest*, preface, p. xix, referring to text pp. 257–259.

‡ *Positive Theory of Capital*, p. 237.

§ The last five words, if taken in a literal and objective sense, are open to criticism. See my discussion in the *Quarterly Journal of Economics*, vol. XV. p. 8.

that he does not consider his work done when the proposition above quoted is stated. He adds immediately: "The first part of our explanation (Book V.) will try to prove the truth of the proposition." * What he does, however, is to give his peculiar explanation of the causes for this fact. The truth of the original proposition cannot be invoked as a proof of any one theory to explain it. The conception of the interest problem as one aspect of exchange value must be considered merely as preliminary to the formulation of an interest theory, not as the theory itself.

Sect. 2. The Roundabout Process and the Productivity of Capital.

It is our purpose here to consider only one of the three principal features of Böhm-Bawerk's explanation "why present goods are, as a rule, worth more than future goods"; but that one is the most important. It is the technical superiority of present goods as instruments of production when used in "roundabout" processes.† He repeatedly refers to this as "the most fundamental conception in the theory of capital," ‡ as "the chief pillar," § and as "the empirical corner-stone" of his theory. He has recently offered an elaborate defence and restatement of it.‖

Again, we shall narrow our discussion to one only of the three supports ¶ offered for the proposition that roundabout processes are more productive than direct ones; that is, its

* *Positive Theory*, p. 237.

† *Ibid.*, p. 260. The other reasons given are: (1) differences in want and provision in present and future (*Positive Theory*, p. 249); and (2) underestimate of the future (*Positive Theory*, p. 253).

‡ *Positive Theory*, p. 22. § *Ibid.*, p. 264.

‖ *Einige strittige Fragen der Capitalstheorie*, Wien u. Leipzig, 1900. Published first as three articles in the *Zeitschrift für Volkswirthschaft, Socialpolitik, und Verwaltung*, in 1899. Reviewed by F. A. F. in the *Political Science Quarterly*, vol. xvii. pp. 169–173, March, 1902.

¶ The first explanation Böhm-Bawerk offers is an appeal to practical examples. It can easily be shown that he wavers greatly in his thought and statement of the degree of validity in the proposition. See, e.g., *Positive Theory*, pp. 20, 22, 82, 84, 260; *Einige strittige Fragen*, pp. 39, 40. The second reason given to account for the greater productiveness of roundabout methods is that thereby natural forces are enlisted in the service of man. *Positive Theory*, pp. 12–33; *Einige strittige Fragen*, p. 10. This second reason is open to the criticism to be given in discussing the third (see below, p. 169); and the two will stand or fall together.

agreement with the old proposition that "capital is productive." This proposition is so generally accepted that, if the two propositions can be shown to be identical in thougdt, differing merely in expression, his thesis, so Böhm-Bawerk declares, is established. The main purpose of the author is to prove that a more roundabout process means identically the same as production with "more capital." If he can show that the two propositions are interchangeable, he will gain for the one all of the authority and belief that attaches to the other among economic students.

It may enable the reader to see a unity in the various criticisms that are to follow: it may serve to show that the negative views expressed proceed not from a spirit of captiousness but from a somewhat positive conception of the nature of the solution, if at this point is indicated the standpoint from which our discussion proceeds. We must demand of the theorist dealing with capital and interest (1) that the term "capital" be used consistently in the various stages of his argument, and (2) that the fundamental explanation apply to interest wherever it is manifest and in all its forms. On another occasion I have given reasons for the belief that in these respects Böhm-Bawerk is at fault.* In the following discussion these tests are applied to the particular question in hand.

If it be allowable to epitomize many pages of the author's argument into a single syllogism, it would run thus: —

First premise: The proposition that capital is productive (which means that, the more capitalistic agents † labor has, the more productive it is) is unquestionable.

Second premise, first link: More capital means identically the same as a longer production period; second link: A longer production period means the same as a more roundabout process.

Conclusion: Therefore the statement that the roundabout process is more productive is unquestionable.

Böhm-Bawerk does not deem it necessary to labor long to prove the general proposition that capital is productive. He

* *Quarterly Journal of Economics*, vol. xv. pp. 1–45.

† These words occur in *Einige strittige Fragen*, p. 11.

first states the proposition in this form:* "Labor is more productive according as it is equipped with more capitalistic agents." This may suggest the idea of a greater number or quantity of agents, physically considered; but he immediately uses in his illustration the value expression of capital in these words: "National labor yields more when supported by a capital of five hundred florins per head than without any capital at all, and yields still more when the capital is five thousand florins or ten thousand florins per head." The implication, here as elsewhere, is that, while this increase may not be in exact proportion to, it is some function of, the increase of capital. So much depends on the sense in which the word "capital" is used that we must examine its meaning in this connection.

"More capitalistic agents" evidently tend to more technical production. Two spades, two fields, two ploughs, in place of one, and perfect tools in place of crude ones, mean a more bountifully endowed world to work in; and, while an increase of one particular kind of agent may sometimes burden rather than aid industry, the possibility of adjusting and interchanging the supply of different agents makes the proposition a valid one in general. But, when one passes over to the value expression of capital, the nature of the statement as an abstract theoretical proposition changes; for, unless we are assured that the greater value expression at the later period stands for a greater number or better quality of physical agents, the technical productivity may vary in any conceivable degree or direction, becoming even absolutely less with the greater amount of capital. The two concepts, it is true, would be the same in practice if we were speaking of the increase of capital applied to a particular industry at a given moment in which there was no change in the supply of capital in the community. But Böhm-Bawerk has chosen to discuss, not the greater roundaboutness of production in a particular industry to which more capital is applied, but the greater roundaboutness in industry as a whole where the value expression of capital has increased. That is, he discusses not the case of a

* *Einige strittige Fragen*, p. 11: "Die Arbeit desto productiver ist, mit je mehr capitalistischen Hilfsmitteln sie ausgerüstet ist."

static supply of capital as a whole, but that of a changing supply of capital, the change being measured by the value expression. The conclusion he draws, therefore, is not theoretically sound; for there is no certainty or even probability that the two features of effectiveness and value will vary at the same rate, or, in the extreme case, that more "capital," containing a larger element of various scarcity values, will represent productive agents even as great or (technically) as effective as those of smaller value did in the preceding period.

Regarding the second premise, first link, Böhm-Bawerk must show that the longer production period is identical with the use of "more capital." Let us examine his concept of capital in this immediate connection.*

Böhm-Bawerk answers the question "What is capital?" not by using either of the definitions referred to in the last paragraph, but by a figure of speech intended to direct attention to what it has been and to the source of its value. "Previous labor," he says, "is a rough but essentially true definition." But he adds in a note, "It is more exact to say, stored-up, previously applied productive force, which can be not only labor, but also valuable natural forces or uses of land." † Then, returning to the text: "a small capital evidently represents little previous labor, a large capital much. A capital of fifty florins can represent, in the extremest case, one-sixth of a labor year when the common wage is three hundred florins a year," etc. This comes near to the discredited labor value theory; and the author, seeing the difficulty, adds in a note: "Probably considerably less, because on the one hand comes into play a higher paid quality of labor, and on the other the value of the stock of capital goods cannot by any means be resolved into labor or wages respectively, but contains for a considerable part accumulated interest, profits, monopoly gains, and the

* This modifying phrase is needed, as there are several different conceptions of capital used by Böhm-Bawerk. See "Recent Discussion of the Capital Concept," *Quarterly Journal of Economics*, vol. xv. pp. 8, 40.

† *Einige strittige Fragen*, p. 11: "Was ist denn eigentlich das 'Capital'? Es ist, wie es mit einer zwar nicht ganz schulgerechten aber wenigstens im Groben recht zutreffenden Definition bezeichnet zu werden pflegt, 'vorgethane Arbeit'". The note reads: "Genauer ist es zu sagen, aufgespeicherte, vorgeschossene Productivkraft, die nicht nur Arbeit, sondern auch wertvolle Naturkraft oder Bodennutzung sein kann."

like."* Despite these important alterations in the meaning of the term "capital" the author has gone on to use it in the simpler, unmodified form, drawing, as to the nature and effect of capital as a whole, conclusions which at the most can be true of that part of capital reducible to terms of previous labor. This conception of capital is confusing by reason of its attempt at a simplicity that is untrue to the facts. It must be noted, however, that it is a value concept of capital. The capital embodies a value which it derives from the value of the labor that has produced it (sometimes thought of together with the value of all the other factors admitted in the note above quoted). It is a value concept despite the use of the terms "labor-month" and "labor-year"; for the labor can be spoken of as representing a certain fraction of the value of the capital only after the amount of the labor itself has been expressed in terms of value, not of time.

In attempting to show the identity of the thoughts of a longer period of production and a more roundabout process (second link of second premise), he says that the ripe consumption goods needed within the year will be secured by a union of new labor with the old labor in the form of capital. It is evident to him that, when little old labor is present, the new labor must be in large proportion, and the average production period† must be short, and *vice versa*.* "The mass of existing capital shows how many labor-months are on their way at any one time, have been performed as labor, and have not yet arrived at the goal of ripened enjoyment. If now, with a capital of fifty florins per head, no more than two labor-months are on their way at one time, it indicates, in an unmistakable way, a shorter average duration of the roundabout method adopted than when, with a mass of capital ten or a hundred fold greater, twenty or two hundred labor-months at once are in the transition stage of unripe intermediate product." This being

* *Einige strittige Fragen*, p. 12.

† The "production period" with Böhm-Bawerk means not the entire time elapsing from the first labor applied to goods, but the average time from the embarking of labor in products until its emergence as enjoyable goods, the whole produced value being thought of as ultimately consumed. This is carefully restated by the author in *Einige strittige Fragen*, pp. 4, 5. Misunderstanding on this point has led to most of the criticisms to which Böhm-Bawerk has replied. We must recognise also that Böhm-Bawerk uses the conception of the production period as that of the average for all industry.

to Böhm-Bawerk quite "evident," he believes that production with the aid of more capital is identical with the lengthening of the average production period, and hence with the adoption of a more roundabout method of production.*

Sect. 3. Failure of the Argument to identify Increase of Capital and Roundaboutness.

We must, for several reasons, question the argument by which are thus identified the thoughts of a larger capital, a longer production period, a more roundabout process, and a greater productiveness. First, in Böhm-Bawerk's concept the natural agents are not a part of capital; and, unless the natural agents, the fertile soil and natural forces, are as great per capita, the technical productiveness of the larger capital may be less than before. His conclusion, therefore, would hold good at most with the added proviso: the amount and effectiveness of natural agents increasing proportionally. In an extreme case conceivable the greater supply of capital (however measured) might be more than offset in its technical effect by a smaller per capita equipment of natural agents.

Secondly, the argument contains the fallacy of the vicious circle by implying the rate of interest. With a value concept the "amount of capital" corresponding to a given product each year varies with the rate of discount in capitalization.† If the prevailing interest is at 20 per cent., an annual product valued at 10 supports a capitalization of fifty; but, if the interest falls to 1 per cent., the same product supports five hundred. Of the two parts of the proposition that more capital means a greater productivity and a more roundabout process, the first portion, therefore, is unsound unless it be qualified by the phrase: provided that the rate of interest has remained the same. But it is the change of the rate of interest which he is attempting to explain through a change in the technical productiveness.

* *Einige strittige Fragen*, p. 11.

† It may seem that this is not true of Böhm-Bawerk's concept of capital, as he has defined it in terms of concrete things and not according to its money expression. Yet as in this very passage he has employed the money expression, and as the discussion of "units" of capital is impossible without violating his definition, it is permissible to cite this against him.

Thirdly, the argument is unsound in the degree to which the capital contains accumulated interest or monopoly gains. It sounds plausible to say that, if the capital per head represents a value one-sixth the average value of a year's labor, the process is one-sixth as roundabout, and the production period is one-sixth as long, as if the capital were just equal in value to a year's labor. But this is an entirely hypothetical proposition, whose truth depends on the fact assumed in the "if"; and the author himself has hastened to add that a considerable part of the value of the capital is due to other elements, among them accumulated interest.* If the value of the capital always can be traced back to labor, and two amounts of capital are proportionate to the labor that has been put into them, then, on an average, the length of the production period would be the quotient of the value of the capital divided by the value of a year's labor. But every unit of capital that represents the other sources of capital disturbs and falsifies that relation. If one hundred and fifty of the three hundred florins capital consists of accumulated interest, the capital represents a production period of only one-half of a year: if two hundred and fifty florins so consists, the production period would be only one-sixth of a year, the same as if capital were only fifty florins, all due to labor.† The proposition in question will be true, therefore, only with a third proviso reading thus: an increase of capital is identical with a more roundabout process, provided that the increase represents labor only, and not accumulated interest or monopoly gains.

A fourth objection to the argument is that, in admitting the value of the uses of land into the value of the stock of capital, Böhm-Bawerk has given a blow that wrecks the capital

* *Einige strittige Fragen*, note, p. 12.

† One can imagine the reply that the greater proportion of interest is the result, and expresses the lengthening, of the period of production; but this fails to explain profits and monopoly gain. It is shifting entirely the test by which the length of a period is to be measured; for, if only one-sixth of the results of the year's labor is at any time bound up in the form of capital, evidently five-sixths of it are applied to current uses, are on an average consumed at once, and only two months elapse on an average from the moment a unit of labor is applied until it emerges as product. And, finally, it brings us back to the difficulty that the amount of capital must, if it includes an element of interest, vary according to the rate of interest: it must involve already the rate of interest which it is the problem to explain.

concept that he employs. What is it that goes roundabout in production when capital is used? According to Böhm-Bawerk's idea it is not the capital itself, but something that passes through and abides for a time in the capital. The capital, he says, is previous labor; or, correcting himself,* it is, more exactly, "stored up previously applied productive force, which can be not only labor, but also valuable natural forces or uses of land." Their value is thought of as originating or given off at a certain moment; and, evidently, it is this value, rather than the physical things, which goes a roundabout journey, and at length arrives at the goal of finished, enjoyable goods. The average production period must be the average time that elapses, throughout the industrial system, between the moment that a use of land originates and the moment it reaches its goal. Any valuable use of land that is not yet matured or available for present wants is a postponed or future value. Anything, such as a table or a house, that contains a number of these uses owes a part of its present value, therefore, to the capitalization or discounting of these future uses at a prevailing rate of discount. In this way the uses of land are made a part of the capital value of all things. Farms or mines have values due to the capitalization of the value of their uses; and this, by Böhm-Bawerk's admission, is just what constitutes any capital value. There is left no logical or consistent test to divide capital, as formally defined by Böhm-Bawerk, from those things which he would exclude from that concept.

If we put together these objections to the argument, we have it in this form: if it were true in any case, it would be true (1) only when the diminishing returns of natural agents did not offset it; (2) when the change in the amount of capital is not merely the expression of a change in the rate of interest; (3) when the increase does not represent accumulated interest or monopoly gains embodied in capital; and (4) when the increase is not the capitalization of the uses of natural agents. There is involved in Böhm-Bawerk's argument, therefore, the fallacy of an unsound premise. If all capital does not consist of, or owe its value to, previous labor, a false conclusion is drawn when the length of the production period is assumed

* *Einige strittige Fragen*, p. 11 and note.

to be fixed by the relation between the stock of capital, counted as previous labor, and the annual amount of labor. Arithmetical examples of the kind given by him * prove nothing as to the proposition advanced unless it can be shown that the increase in the capital represents labor only.

If the concepts of the roundabout process and of the average production period are so defective, and yet have obtained wide currency, it must be because they contain a partial truth. In fact, the author at the outset transfers the reader's thought to the point from which the conceptions appear simple and reasonable. This may be better understood if we state the proposition as a hypothetical truth. If the value of capital consisted entirely of the value of labor, if the amount of capital varied directly with the "amount of labor" and with nothing else, if capital were distributed to the industries of longer and shorter processes in a fixed proportion, then every increase in the ratio of existing capital to current labor would represent an increase of the average period of labor between the application of labor and its fruition. But every one of the "ifs" is contrary to reality. The author states the proposition with all these conditions implied, makes, in a note, passing comment on its inexactness, fails to see how his general proposition is affected, and goes on to draw a conclusion.

Hasty and rough observation seems to support the proposition; for, taking the extreme cases, evidently a larger proportion of the efforts of men is applied to current wants in primitive society, while in a more advanced and richer society a larger proportion is embodied in durable agents. But, labor being only one of the factors entering into the amount of capital, the ratio of capital to current labor does not express at all exactly the length of "the roundabout process." The amount of capital varies as a function of several factors, of which labor is only one. Most important of the neglected factors is the rate of interest,— that is, the rate at which all of the existing rentals, no matter what their nature, shall be capitalized, and shall enter into the value expression of the stock of capital.

* *Positive Theory*, pp. 262, 266, 267, 269.

Sect. 4. Futility of the Concept of an "Average Production Period."

Were all the foregoing objections beside the mark, there still would remain a fundamental weakness in the conception of the average production period, unfitting it to bear any part in the solution of the theoretical interest problem. It involves the fallacy of averages. The production period, with Böhm-Bawerk, is not an average time in one industry, but an average period during which the value of the total productive force of the community is supposed to be embodied in the total existing body of capital.* Such an average of widely divergent facts is not the significant thing in the explanation of interest. The average production period, whose length is assumed to express the degree of roundaboutness of the productive process, is an average of a multitude of different productive processes of every conceivable length. In a great many industries the labor is said to mature almost immediately; in others, only after a long period. If at one time one-half of a given capital, and at a later time one-tenth, is employed in industries with a short-time period, the average productive period would be lengthened without any change in the amount of capital.

50 units in industries with	1 mo. period	=	50 units for	one month
50 " " "	2 yrs.	=	1,200 " "	" "
100 " average		12½ mos. production period.		

In the second case we might have the following: —

10 units in industries with	1 mo. period	=	10 units for	one month
90 " " "	2 yrs.	=	2,160 " "	" "
100 " average		21.7 mos. production period.		

The average production period for industry as a whole (even if it were correct to conceive of it as Böhm-Bawerk does) would have no logical relation to the productiveness of capital or to the rate of interest. What is significant is not the average period, but the marginal application. One cannot explain market price by an average of the subjective estimates of all the buyers and sellers. In any particular industry at any mo-

*See above, p. 168 note.

ment the use of more capital (value) may, perhaps, yield a larger product, either technical or economic; but this may even accompany a decrease of the average production period for industry as a whole, if the capital has been transferred from an industry with a longer production period to one with a shorter. Along the margin of possible uses the existing stock of capital is applied, equalizing thus the rate of interest in the different uses, and altering likewise the ratio of labor and capital invested. In determining this distribution, however, the average production period, as Böhm-Bawerk conceives of it, has no causal influence whatever. It is itself nothing but an arithmetical resultant of all the changes that have taken place. It is a figment of the same kind as the wage fund. A lengthening of the average productive period could therefore accompany as well a fall as a rise of the productiveness of capital.

It remains to mention the mathematical support for his proposition by which the author is himself misled. Taking up his final discussion of the roundabout process, he says:* "I venture to think we may now assume it as proved," and then he frames some arbitrary arithmetical tables "to represent the product which may be turned out by increasingly lengthy processes under the picture of a series increasing in a certain ratio, regular or irregular." In the first one he represents a month of labor in 1888, for that year producing 100 units; for 1890, producing 200; for 1892, producing 400, etc. Plainly, these figures add no proof whatever to the proposition, which, therefore, is in no way strengthened by the statement that, "whatever period of time we take as our standpoint of comparison, the earlier (present) amount of productive instruments is seen to be superior, technically, to the equally great later (future) amount."† When the author goes on to the further proposition, that technical superiority is accompanied by a superiority of value, he declares that it "may be made absolutely convincing by mathematical evidence."† The "evidence," however, is merely another set of illustrative tables, arbitrarily constructed on the assumption of the truth of the proposition in question. Introduced with the statements quoted in the third line of this paragraph, they are dismissed with the remark: "on the single assump-

* *Positive Theory*, p. 260. † *Ibid.*, p. 262. ‡ *Ibid.*, p. 264.

tion that longer methods of production lead generally to a greater product, it is a necessary result." *

Sect. 5. The Capital Concept as the Source of Error.

The validity of the assumption being the question under consideration, we return from the mathematical evidence to the question of the greater productiveness of the roundabout process. Glancing back over the many difficulties in the author's argument, it appears that they may all be traced more or less clearly to the defects of his capital concept. In advance of his time, and presenting a twentieth-century theory of value, he has been content to use the clumsy eighteenth-century capital concept. This involves him in inconsistencies at every step. An advocate of the theory of marginal utility, he yet employs what is essentially a cost-of-production concept of capital, and, despite his various statements to the contrary, he is looking to the past rather than to the future of goods for an explanation of their value. It is "previous labor" and not future utility, regardless of the quantity, time, or value (however it may be measured), that distracts his attention, and fixes it on the figment of the average production period of industry as a whole. A value concept of capital, wherein capital is thought of as merely the present worth or capitalized value of the future uses of existing agents, makes the conception of the roundabout process appear fragmentary, inadequate, and false because only a half-truth. Almost immediately he is compelled to go over to the value concept of capital, for that is the only one that permits of the discussion of interest as a percentage of the principal. Thus at every step the two ideas conflict, a greater capital at one moment meaning more physical instruments, at another meaning durable instruments of greater value expressed in terms of present goods. Before beginning his task, Böhm-Bawerk has expressed the hope that he might give a solution of the problem of interest that "invents nothing and assumes nothing." † The conceptions of the average period of production and of the roundabout process appear to err both in inventing and assuming.

* *Positive Theory*, p. 268. † *Capital and Interest*, p. 428.

SECT. 6. RELATION OF ROUNDABOUTNESS TO THE OTHER GROUNDS FOR THE HIGHER VALUATION OF PRESENT GOODS.

Our author says he considers that the "statement of how the productivity of capital works into and together with the other two grounds* of the higher valuation of present goods, is one of the most difficult points in the theory of interest and, at the same time, the one which must decide the fate of that theory."† There is a flaw in the argument at this crucial point. Foregoing a detailed criticism here, let us observe that the technical productiveness is not co-ordinate with the other causes assigned, and that the words "present wants" and "future wants" are used in the propositions in different senses. In the statement that present goods are worth more than future goods because of differences in wants and provision for wants, the present goods are objects which confer enjoyments or satisfactions at the present moment: the future goods are the same goods thought of as secured at a future moment. But, in the statement that present goods are technically more productive than future goods, the "present goods" are not "present enjoyments," but "intermediate goods," or "productive agents," to use the phrases elsewhere employed by Böhm-Bawerk. Whether they will mature physically and become enjoyable goods in the future, or whether they will merely permit the securing of future goods, in either case they may be said to represent rather future goods (enjoyments) than present goods in the sense of the other proposition. To identify the two things as present goods is entirely misleading. It would be a far more consistent use of language to call intermediate, or productive, agents "future goods" than present goods.

To Böhm-Bawerk these three reasons together seem to make a complete explanation. The first two reasons account for the agio on present over future consumption goods, the third accounts for the agio of present production over future production goods,— *i.e.*, those available at a later period. But there is only a mechanical or arithmetical completeness: there is

*Given above in note, p. 164. † *Positive Theory*, p. 227, note.

no logical unity in the explanation.* A satisfactory theory of interest is not attained until time differences in all kinds of goods are traced back to a single principle. That principle is the greater want-satisfying power of present as compared with future consumption goods. The essence of the explanation must be found not in technical production, but in the subjective comparison of goods.

Sect. 7. The Weakness of Productivity Theories.

It has been a surprise to many students of Böhm-Bawerk to find that he has presented a theory, the most prominent feature of which is the technical productiveness of roundabout processes. His criticism of the productivity theories of interest has been of such a nature as to lead to the belief that he utterly rejected them.† But evidently such is not the case. Critics have pretty generally agreed that the theory of the roundabout process is a productivity theory of interest; and it appears from Böhm-Bawerk's later statement that he does not object to the productivity theory as a partial, but as an exclusive, explanation of interest. He believes particularly that interest on consumption goods cannot be explained in that way. But he says repeatedly that the idea of the roundabout process contains the essential truth in the productivity theory, and he uses it to explain that part of interest yielded by produced goods employed in lengthened productive processes. Böhm-Bawerk's theory, therefore, so far as it rests upon the productiveness of roundabout processes, is a productivity theory; and as such it is to be judged by the tests which he has set up, and rightly, in criticising such an argument. The essence of the interest problem is to explain a surplus of value over the value of the capital employed.‡ It is not enough to show that more capital (or a more roundabout process) will produce more products, or to show that the aggregate of products has a greater value than those secured before. The value of the capital being derived from the value of the products, the more the

*The reader will recall the distinction between the action of the different causes, the first two being called cumulative, the second alternative. See *Positive Theory*, pp. 273–277.

† See *Capital and Interest*, e.g., pp. 111–119, 180, 181, and 138, quoted below.

‡ See *Capital and Interest*, e.g., pp. 116–118.

products (in value), the more the capital (value), unless the interest rate (the thing to be explained) keeps the capital from increasing proportionately.

In criticising others, Böhm-Bawerk has said:* "I grant that capital actually possesses the physical productivity ascribed to it. . . . But there is not one single feature in the whole circumstance to indicate that this greater amount of goods must be worth more than the capital consumed in its production; and it is this phenomenon of surplus value we have to explain." Now, coming to this explanation in his own positive argument,† he asks regarding the earlier productive instrument which he has shown to be technically superior: "But is it superior also in the height of its marginal utility and value? Certainly it is. For, if in every conceivable department of wants for the supply of which we may or shall employ it, it puts more means of satisfaction at our disposal, it must have a greater importance for our well-being." This argument curiously has involved in it the whole question; for, if the importance of the future use were, at the present moment, always greater than the present use, everything would be kept for the future. The reason why this is not done is that the future uses are discounted at the prevailing rate of interest. What we must demand at this point from the author, according to his own canons of criticism, is some proof that the greater technical product of the future has a greater value at this moment than the value of the capital consumed in it. This he quite fails to give. Instead, he says, after confessing that sometimes the opposite is the case: "For one and the same person at one and the same point of time the greater amount has always the greater value."‡ But the crucial question why the greater amount may have a less value at the present moment, when the two products are at two points of time, is not touched. The problem of interest is one that involves a ratio between the value of the capital and the value of the interest. The fact that the value of a given number of productive agents may be the same in any one of a dozen possible uses, though in some of them very long "roundabout processes" would give enormous sums of products and in others smaller amounts are

* *Capital and Interest*, p. 138.

† *Positive Theory*, p. 263. ‡ *Ibid*, p. 264.

at once secured, shows that the amount of technical product may diverge indefinitely from the value. Böhm-Bawerk has not bridged the gulf between the technical productivity and the surplus of value over the capital investment any better than those whom he has criticised.

SECT. 8. RELATION OF TECHNICAL PRODUCTIVITY TO THEORIES OF INTEREST.

If the foregoing is true, most of what is characteristic or significant in Böhm-Bawerk's *Positive Theory* must be rejected.* It must be said that he starts with brilliant intuitions into the true character of the interest problem, only to go astray on the road of the old productivity theory. Let us venture an opinion as to the nature of the difficulty and the direction that must be taken to reach a correct conclusion.

The initial error in the older theories of interest was mistaking the nature of the problem. Interest and rent were believed to be co-ordinate and essentially similar aspects of value, the difference lying in the kind of agents with which they were connected. Rent was thought to be due to the surplus value of the products of the soil, and interest in general to the surplus value of the products from capital. Böhm-Bawerk seems at many points of his earlier criticism ready to break away from this; but, in adopting the concept of capital that he employs, he made a correct solution of the problem impossible. He looks upon capital as consisting of certain *kinds* of agents, and of interest as the surplus value or product peculiar to those agents. Glimpses of a different view appear, but one which certainly falls far short of a correct one.†

Let us suggest the view that rent and interest are very dissimilar aspects of the value of goods. Rent has to do with "production" or scarce and desirable uses of things. To the interest theorist this is in the nature, one might almost say, of an

* After this article was in print the new edition of the *Positive Theory* came to hand. It proves, however, to be a *verbatim* reprint, not a revision of the first edition, the author's official duties having prevented his undertaking its rewriting at this time. This will be a source of much regret to economic students, although recent magazine articles by the author make it clear that he has in no essential way modified the concepts or theories presented in the first edition.

† E.g., *Positive Theory*, pp. 352-357.

ultimate fact. The interest theory begins with the valuation of these different rents or incomes, distributed through different periods of time. The "productiveness" of a material agent is merely its quality of giving a scarce and desirable service to men. To explain this service of goods is the essence of the theory of rent. Given this and a prospective series of future services, however, the problem of interest arises, which is essentially that of explaining the valuation set on the future uses contained in goods. Interest thus expressing the exchange ratio of present and future services or uses is not and cannot be confined to any class of goods: it exists wherever there is a future service. It is not dependent on the roundaboutness of the process; for it exists where there is no process whatever, if there be merely a postponement of the use for the briefest period. A good interest theory must develop the fertile suggestion of Böhm-Bawerk that the interest problem is not one of product, but of the exchange of product,— a suggestion he has not himself heeded. It must give a simple and unified explanation of time value wherever it is manifest. It must set in their true relation the theory of rent as the income from the use of goods in any given period, and interest as the agio or discount on goods of whatever sort, when compared throughout successive periods. For such a theory the critical work of Böhm-Bawerk was an indispensable condition; but, the more his positive theory is studied, the more evident it is that it has missed the goal.

FRANK A. FETTER.

CORNELL UNIVERSITY.

NOTES AND MEMORANDA.

THE BRITISH TRADE-UNION CONGRESS OF 1902.

The annual meeting of the British Trade-union Congress for 1902 was held at London during the first week of September. This organization is the most important central association of the English labor unions. The delegates present claimed to represent about 1,300,000 workers. But the congress is, in general, a much less effective body than the corresponding one in our own country, the American Federation of Labor. The latter has adequate revenues, a paid and active executive force, and a valuable journal. Through these means it is able to carry on a large "missionary work" for extension of trade unionism, as well as to promote legislation in the interests of labor and perform other functions. The British Congress, on the other hand, has little revenue. The Parliamentary Committee, which is intrusted with the duty of furthering such legislative measures as the congress may desire,— for influencing legislation is the chief aim of the congress,— is not a paid body, only its secretary receiving a small salary; nor does it have more than the smallest funds at its disposal. For this and other reasons the committee cannot even become an efficient Cabinet and leader to the congress in its deliberations, much less conduct extensive and vigorous propaganda. While the British unions have long exercised a very considerable political influence, the congress has been but a relatively small factor in doing so.*

At the session of 1902, however, there was shown a strong appreciation of the need of more centralized and effective machinery for securing desired legislation and warding off obnoxious laws and court decisions; and a movement was inaugurated which, though as yet but tentative, may have important results. The immediate cause of this movement was

* See on this point Webb's *Industrial Democracy*, i. 266-268.

the recent legal decisions hostile to what unionists consider their interests and rights. During the past few years there has been a growing disposition on the part of the English employing and middle classes to attribute, rightly or wrongly, the relative decline of British industry and the "American invasion" largely to limitations of output and other restrictions of the labor organizations. It is possible that this spirit of opposition to unionism in general has, unconsciously of course, weighed somewhat with the courts and the House of Lords in their recent decisions. In one of these cases, *Quinn* v. *Leathem*,* the Lords held union men liable in damages to the plaintiff — an employer who refused to discharge non-unionists — because the members of the union, by threatening to leave their own employer, had forced him to withdraw his business patronage from the plaintiff. This decision seemed to reverse the spirit, though not the letter, of the case of *Allen* v. *Flood*, decided in 1898, in which the House of Lords upheld workingmen in quitting, or threatening to quit, employment in order to force their own employer to discharge non-union men.

More obnoxious still to the unionists was the Taff Vale decision of 1901.† The Trade-union Act of 1871 had declared that labor organizations should not, "by reason merely that they are in restraint of trade, be deemed unlawful," and, while furnishing a legal form of organization for unions, had expressly exempted them from the provisions of the law as to ordinary corporations. It was long, therefore, assumed that unions could not be sued by employers for any cause. In the case mentioned, however, the House of Lords upheld an injunction restraining not merely certain officers, but also the Amalgamated Society of Railway Servants as an organization, from picketing the plaintiff's premises, except to the bare extent of "giving or obtaining information," which is expressly sanctioned by statute. It was held that, though not a corporation, a trade union was intended by Parliament, when legal recognition was granted to it, to be a responsible body, capable of being sued for torts committed through its regular agents or under its directions, and that union funds could be seized in satisfaction of judgments.

* Appeal Cases, 1901, 495.

† *Taff Vale Ry. Co.* v. *Amalgamated Society, etc.*, Appeal Cases, 1901, 426.

These and other decisions have inspired in the British unionists a perhaps exaggerated terror regarding the safety of their organization funds, and regarding the possibility of using what seem to them necessary and just means of dealing with employers and conducting trade disputes. They fear that they see only the beginning, that unions will come to be held financially responsible even for the unauthorized acts of their unofficial members. Under the instructions of the Trade-union Congress of 1901 the Parliamentary Committee took legal advice regarding a scheme for safeguarding union funds by means of subsidiary incorporated companies. The committee reported to the present congress, however, that, while perhaps technically feasible, this plan was too cumbrous to be practically workable; and it voiced the common conviction of union leaders that the only protection for the future is to be found in further legislation by Parliament.

The keynote of the congress, then, was the exercise of greater political influence. The unions must go into politics far more than ever. Labor must elect more direct representatives in Parliament, and must see to it that the members chosen by the other parties are friendly. To this end more systematic and centralized effort was deemed necessary. Similar methods were held desirable also for the purpose of securing greater harmony of action between members of Parliament already favorable to labor and labor organizations.

The congress accordingly adopted a resolution declaring that it

> is of the opinion that the most successful method of utilizing the forces of labor in Parliament would be by concentrated effort from an organized centre, and that the Committee on Labor Representation be instructed to call and take part in a conference of all *bona fide* labor organizations actively engaged in the question of direct labor representation, to arrange a basis of common action of all labor representatives returned to Parliament, . . . to issue and publish manifestoes in behalf of such [labor] candidates, and take other steps to secure their election.

The Labor Representation Committee, whose functions have heretofore been unimportant, immediately called an informal conference, the most significant fruit of which was the issuance of a circular requesting the unions to vote annually one

penny per member,—a modest beginning,—to be used in promoting the election of labor representatives, and in paying them when elected. What the further outcome of the movement will be cannot, of course, be foreseen. It is by no means unlikely, however, that under the stress of the present necessity the unions will succeed in concentrating and increasing their political influence, and in securing the passage of additional legislation. The British Parliament has, as is well known, long shown itself far more disposed to favor labor and labor unions than is the case with our own Congress or with most of our State legislatures.

Aside from this important action, the Trade-union Congress of 1902 passed the usual number of miscellaneous resolutions, the great majority of which spring from unofficial delegates, receive little serious consideration, and are passed unanimously. One long resolution denounced, though in respectful terms, the recent court decisions referred to, and called on Parliament for more liberal and specific acts as to the rights of unions and of strikers. It demanded the legalization of "peaceful picketing and persuading," as well as of the withdrawal of labor, or the ordering of such withdrawal, by unions and their officers, "under all circumstances where men are pursuing the objects of trade unionism." Among the more significant other resolutions were those demanding the extension of the Workmen's Compensation Act, aid to localities in schemes for housing the working people, and the raising of the age of prohibition for child labor to fifteen years; denouncing capitalistic trusts on the ground that they raise prices and threaten the freedom of labor; and condemning the Government's Education Bill, now before Parliament, especially as being undemocratic. More radical was the demand for universal old-age pensions at the sole expense of imperial taxation. The congress refused, by a vote of the representatives of 961,000 members to 303,000, to indorse a proposition for compulsory arbitration, one of the chief objections raised being that the odd member of a court of arbitration, who must be presumably a judge of one of the higher courts, would be almost certain to be prejudiced, and probably in favor of the employing class.

E. DANA DURAND.

THE PLACE OF THE THEORY OF VALUE IN ECONOMICS.

Professor Marshall has aptly defined economics as the study of man's actions in the ordinary business of life. Since the ordinary business of life consists in getting a living, it would be easy to change this definition so as to read, Economics is the study of man's efforts to get a living. Either of these definitions would imply that the science is concerned more with man's activities than with the things towards which those activities are directed; more with the ways of getting and using wealth than with the nature and forms of wealth. As a matter of fact, the student of economics cares only incidentally for a description and classification of the things which constitute wealth; but he wishes primarily to know the methods by which wealth is produced and utilized. In other words, economic activities, rather than economic goods, form the subject-matter of the science.

The reason for subdividing a science into departments is that it is easier to concentrate the attention upon a part of the subject than upon the whole. In order to fulfil this purpose, the subdivision must be such that in each department some definite part of the subject-matter is set off by itself for special study. If economic goods formed the subject-matter of the science, it would have to be so subdivided that each department would study some particular class of goods. If economic conditions formed the subject-matter, each department would study some particular set of conditions. But if economic activities form the subject-matter, then each department must set off some particular class of activities for special study. In other words, the subdivision of economics should be based upon a classification of economic activities.

One very important group of economic activities is directed towards the production of goods. If this be broadly defined as the process of adding utilities to things, it will include not only the activities of the producer in the ordinary sense, but

of the carrier, the storer, and the exchanger of goods. Another important group of activities consists in extracting the utilities from things, or in the consumption of goods. A third equally important group consists in the valuation of things. No one of these groups is independent of the others, else we should have three separate sciences; but each is sufficiently distinct to permit of special study. At the same time these three groups exhaust the category of economic activities, though each is capable of further subdivision.

These three classes of activities should therefore form the subjects of the three main divisions of the science,— production, consumption, valuation. The order in which these subjects should be treated and the subdivisions of each would depend upon the interests and the purposes of the individual writer. As a tentative suggestion as to the subdivision of the subject of valuation, the following outline is submitted: —

- Valuation
  - of goods
    - consumers' goods
    - producers' goods
      - land and natural agents
      - capital
      - laborers (slaves)
  - of services
    - of land and natural agents; or rent
    - of capital; or interest
    - of laborers; or wages.

In this outline no place is found for the profits of business for the reason that the services of the business man are never actually evaluated. Profits are, from this standpoint, distinctly a residual share. These services are never bargained for, no price is actually set upon them: the business man simply takes what is left after other goods and services are paid for according to a definite principle of valuation.

The present writer would be the last to belittle the importance of the psychical side of economics; but the foregoing discussion will, it is hoped, help to make it clear that economics is not primarily a psychical science. The psychical element predominates only in the department of valuation. It is obviously out of place here to open up the general question of the nature of the science; but it may be permissible to express the hope that economics may remain, as it always has been, a

concrete science, whose aim is to explain the facts of economic life as they are seen and experienced, first in our own economic environment and then in the world at large. If this is to be the nature of the science, and if it is not to become an abstract theory whose aim is to follow the workings of a single principle under all possible conditions, then the words "static" and "dynamic" cannot properly designate any of the main divisions of the science. Few special studies could be more useful to the science than a detailed investigation of the operation of a single principle of action through all possible circumstances, real or imaginary. Such a study would add greatly to our ability to explain the concrete facts of economic society. But it is sincerely to be hoped that such a special study will not be mistaken for the science of economics.

T. N. Carver.

RECENT PUBLICATIONS UPON ECONOMICS.

Chiefly published or announced since August, 1902.

An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number.

I. General Works. Theory and its History.
II. Labor and Capital.
III. Socialism.
IV. Land and Agrarian Problems.
V. Population and Migration.
VI. Transportation.
VII. Foreign Trade and Colonization.
VIII. Money, Banking and Exchange.
IX. Finance and Taxation.
X. Industrial Organization.
XI. Economic History.
XII. Description of Industries and Resources.
XIII. Statistical Theory and Practice.
XIV. Not Classified.

I. GENERAL WORKS. THEORY AND ITS HISTORY.

ADAMS (Brooks). The New Empire. New York: Macmillan Co.

ANNALES DE L'INSTITUT INTERNATIONAL DE SOCIOLOGIE. Tome VII. Le matérialisme historique ou économique. Paris: Giard et Brière 1902. 8vo. 7 fr.
[Articles by Novicov, Loria, Kovalewski, de Greef, Ward, Worms, Fouillée, Tarde, and others.]

BOGGIANO (A.). I' stituzioni di economia politica. Vol. I. Parte generale. Rome: Soc. italiana cattolica. 1902.

COOLEY (C. H.). Human Nature and the Social Order. New York: Charles Scribner's Sons. $1.50.

DUGUIT (Léon). L'état les gouvernants et les agents. Paris: Thorin et Fils. 1902. 8vo. pp. 770.

ESPINAS (A.). La troisième phase et la dissolution du mercantilisme. (Mandeville, Law, Melon, Voltaire, Berkeley.) Paris: Giard et Brière. 1902. 1 fr.

FLURSCHEIM (M.). A Clue to the Economic Labyrinth. London: Sonnenschein. 1902. 8vo. 2s. 6d.

FONTANA (R. L.). I trattati di commercio e l' economia nazionale. Rome: Soc. editr. Alighieri. 1902. 8vo. pp. 279. 3 l.

LAURENT (H.). Petit traité d'économie politique mathématique. Paris: Schmid. 1902. 16mo. 1.50 fr.

LORIA (A.). Les bases économiques de la constitution sociale. 2me édition entièrement refondue et augmentée. Traduite par A. Bouchard. Paris: Michalon. 1902. 8vo. pp. 430. 5 fr.

In Periodicals.

DENIS (H.). David Ricardo et la dynamique économique. Rev. d'Écon., April.

FERRARIS (C. F.). Il materialismo storico e lo stato. Three articles. Riforma Sociale, June, Aug. [Largely a criticism of Loria's Economic Foundations of Society.]

HOBSON (J. A.). The Scientific Basis of Imperialism. Pol. Sci. Quarterly, Sept. [An attack upon "biological sociology."]

JOHNSON (A. S.). Patten's Theory of Prosperity. Pol. Sci. Quarterly, June. [A laudatory review.]

KAULLA (Dr. R.). Der Wertbegriff im römischen Recht. Zeits. f. d. ges. Staatsw., 58, Heft 3.

MACFARLANE (C. W.). The Three

Primary Laws of Social Evolution. Annals Amer. Acad., Sept. [The "historical school" makes a mistaken use of Darwin the basis of its theory of social progress.]

NEURATH (W.). Der Kapitalismus. Jahrb. f. Nat. Oek., 24, Heft 2.

II. LABOR AND CAPITAL.

BELLOC (L.). I mezzi e gli apparecchi per prevenire gli infortuni sul lavoro in relazione alle leggi italiane. Turin: Unione tip.-editr. 1902. 4to. pp. 688. 20 l.

BOSANQUET (Mrs. Bernard). The Strength of the People. New York: The Macmillan Co.

BOURGEOIS (L.) et CROISET (A.). Essai d'une philosophie de la solidarité. Conférences et discussions. Paris: Alcan. 1902. 8vo. 6 fr.

BOUYER (J.). De l'évolution de la responsabilité civil en matière d'accidents du travail. Paris: Giard et Brière. 1902. 8vo. 5 fr.

BRANTS (V.). La petite industrie contemporaine. Paris: Lecoffre. 1902. 12mo. pp. 225. 2 fr.

[The third volume of a *Bibliothèque d'économie sociale* edited by M. Henri Joly.]

BRY (G.). Cours élémentaire de législation industrielle. Nouvelle édition, mise au courant. Paris: Larose. 1902. 8vo. 10 fr.

*COGNETTI DE MARTIIS (S.). La mano d' opera nel sistema economico. Turin: Unione Tipografico. 1901. pp. 201.

COTELLE (T.). Le sweating system. Étude sociale. Angers: Sirandeau. 1902. 8vo. pp. 270.

FISCHER (G.). Die sociale Bedeutung der Maschinen in der Landwirtschaft. Leipzig: Duncker & Humblot. 1902. 8vo. pp. 71. 1.60 m.

[Heft 92 in Schmoller's Forschungen.]

FOLLIN (H. L.). L'économie de la vie sociale. Paris: Guillaumin. 1902. 18mo. pp. 135. 2.50 fr.

HERKNER (Prof. H.). Die Arbeiterfrage. Berlin: J. Guttentag. 1902. 8vo. pp. 511. 8 m.

[New edition; revised.]

INDUSTRIAL CONCILIATION. Report of the Conference held under the Auspices of the National Civic Federation, December, 1901. New York: G. P. Putnam's Sons.

ISSUED BY VEREIN FÜR SOZIALPOLITIK. Untersuchungen üb. die Lage der Angestellten u. Arbeiter in den Verkehrsgewerben. Leipzig: Duncker & Humblot. 1902. 8vo. pp. 579. 12.60 m.

JASTROW (Priv.-Doz. Dr. J.). Der oeffentliche Arbeitsnachweis in der Mark Brandenburg. Berlin: G. Reimer. 1902. 8vo. pp. 74. 3 m.

MANNHEIM (C.). De la condition des ouvrièrs dans les manufactures de l'état. (Tabacs-allumettes.) Paris: Giard et Brière. 1902. 8vo. 10 fr.

MOMBERT (Dr. P.). Die deutschen Stadtgemeinden und ihre Arbeiter. Stuttgart: J. G. Cotta. 1902. 8vo. pp. 271. 6 m.

[In Münchener volkswirtschaftliche Studien.]

PIC (P.). Traité élémentaire de législation industrielle. 2me édition entièrement refondue. Paris: Larose. 1902. 8vo. 12.50 fr.

POTTER (Rev. H. C.). The Citizen and the Industrial Situation. New York: Scribner's Sons. $1.

RAVA (L.). La cassa nazionale di providenza per l' invalidità e la vecchiaia degli operaii. Bologna: Zanichelli. 1902. 3 l.

SALUCCI (A.). La teoria dello sciopero. Genoa: Lib. Moduno. 1902.

UNSIGNED. Les associations ouvrières de production: compte-rendu de 2e congrès annuel tenu à Lyon Octobre, 1901. Paris: L'association ouvrière. 1902. 8vo. pp. 192. 1 fr.

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BERTRAND (L.). Le mouvement co-opératif en Belgique et ses résultats. Rev. d'Écon. Pol., Aug.

BREWER (F. N.). Child Labor in the Department Store. Annals Amer. Acad., July.

COLETTI (F.). Liberismo e legislazione di classe. Giorn. degli Econ., Aug.

CONTENUTO (A.). La statistica della disoccupazioni. Riforma Sociale, Aug.

DUBOIS (E.). Child Labor in Belgium. Annals Amer. Acad., July.

FOLLIN (H. L.). La solidarité économique et l'économie solidariste. Journ. des Écon., Aug. [A criticism of recent writings by Bourgeois and Gide.]

FOX (H. F.). Child Labor in New Jersey. Annals Amer. Acad., July.

GOMPERS (S.). The Limitations of Conciliation and Arbitration. Annals Amer. Acad., July.

HANNA (M. A.). Industrial Conciliation and Arbitration. Annals Amer. Acad., July.

KELLEY (Mrs. Florence). Child Labor Legislation. Annals Amer. Acad., July.

LEENER (G. de). La première sucrerie co-opérative hollandaise. Rev. d'Écon. Pol., Aug.

LOSCHER (A. P.). Workshop Organization. Econ. Rev., July.

MANN (Tom). Conditions of Labor in New Zealand. Nineteenth Century, Sept. [Direct observation seems to have led to not a little disillusionment.]

MARTIN (J.). Do Trade Unions limit Output? Pol. Sci. Quarterly, Sept. [Only in respect to resistance to "overdriving."]

PIATO (G.). Le società di mutuo soccorso all' estero. Riforma Sociale, Sept.

PFAHLER (W. H.). Co-operation of Labor and Capital. Annals Amer. Acad., July.

PURVES (A.). Harmonizing Labor and Capital by Means of Industrial Partnership. Annals Amer. Acad., July.

REEVES (W. P.). Mr. Wise's Industrial Arbitration Act. Econ. Journ., Sept.

ROBBINS (H.). The Necessity for Factory Legislation in the South. Annals Amer. Acad., July.

SCHIRMACHER (Käthe). Frauenarbeit in Frankreich. Jahrb. f. Gesetzg., 26, Heft 3.

STRAUS (O. S.). Results Accomplished [in Arbitration] by the Industrial Department, National Civic Federation. Annals Amer. Acad., July.

WAXWEILER (E.). Heures de travail et salaires dans l'industrie belge. Rev. d'Écon. Pol., July.

WEBER (A. F.). Accident Insurance for Workingmen. Pol. Sci. Quarterly, June. [Deals mainly with "Employers' Liability," showing the "contrast between European and American principles of legislation." . . .]

WHITE (H.). Machinery and Labor. Annals Amer. Acad., July. [Labor is not opposed to the introduction of new machinery, but demands that it shall not make a disproportionate sacrifice for the common good.]

WISE (H. R.). The Industrial Arbitration Act. Nat. Rev., Aug.

WRIGHT (C. D.). Labor Organization in the United States. Contemporary Rev., Oct.

III. SOCIALISM.

JAURÈS (J.). Histoire socialiste (1789–1900). Tome I.: La constituante (1789–1791). Paris: Rouff. 4to.

[The first of a series of volumes edited by M. Jaurès, which is to trace the history of the 19th century from the socialist viewpoint.]

LUBOC (J.). John Stuart Mill et le socialisme. Paris: Giard et Brière. 1902. 8vo. pp. 127. 3 fr.

SPALDING (J. L.). Socialism, Labor, and Other Arguments. Chicago: McClurg & Co. 80 cts.

IV. LAND AND AGRARIAN PROBLEMS.

BERGET (A.). La co-opération dans la viticulture européene. Étude d'économie rurale et d'histoire agronomique. Lille: Devos. 1902. 8vo. pp. 716. 6.50 fr.

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FERNOW (B. E.). Economics of Forestry. New York: T. Y. Crowell & Co.

FUCHS (Prof. C. J.) Die Grundprobleme der deutschen Agrarpolitik in der Gegenwart. Dresden: v. Zahn & Jaensch. 1902. 8vo. pp. 47. 1.20 m.

HEROLD (Dr. Rob.). Der schweizerische Bund und die Eisenbahnen bis zur Jahrhundertwende. Stuttgart: J. G. Cotta. 1902. 8vo. pp. 380. 8 m.
[In Münchener volkswirtschaftliche Studien.]

MAGNIER (A.). Le paysan et la crise rurale. Notice sur la dépopulation des compagnes. Paris: Roustan. 1901. 8vo. 1.50 fr.

RE (A. Lo.). Sunto storico della agricoltura italiana. Foggia: Zobel. 1902.

STUMPFE (Dr. E.). Der landwirtschaftliche Gross-, Mittel-, u. Kleinbetrieb. Eine Darstellg. seiner privat- u. volkswirtschaftl. Vor- u. Nachtheile auf Grund des v. d. preuss. Landwirtschaftskammern ges. Materialen. Berlin: 8vo. pp. 293. 7 m.

In Periodicals.

DAWSON (W. H.). Agricultural Co-operation Credit Associations. Econ. Journ., Sept.

GHINASSI (P.). Gli agricoltori italiani nell' Argentina. Giorn. degli Econ., July and Sept.

HURD (R. M.). Distribution of Urban Land Values. Yale Rev., Aug. [A thorough piece of work.]

MEAD (Elwood). Property Rights in Water. Internat. Quarterly, Sept.

V. POPULATION AND MIGRATION.

CAUDERLIER (G.). Les lois de la population en France avec un atlas de démographie de 72 planches. Paris: Guillaumin. 1902. 8vo.
[Contains 272 colored maps of France, illustrating the vital statistics of the different departments.]

GARY (A.). Dépopulation rurale de la Haute-garonne. Toulouse: Saint-Cyprien. 1902. 8vo. pp. 46.

MOREAU (E.). Une des causes de la dépopulation. Paris: Maloine. 1902. 8vo. pp. 28. 1 fr.

TURQUAN (V.). Contribution à l'étude de la population et de la dépopulation. Orné de 42 graphiques. Paris: Guillaumin. 1902. 8vo. pp. 170. 6 fr.

In Periodicals.

CONTENTO (A.). Il fenomeno dell' urbanismo. Giorn. degli Econ., Sept. [Based on the last Italian census.]

FORBES (U. A.). Overcrowding and Emigration. London Quarterly Rev., Oct.

PEARSON (Karl) and BEETON (M.). Inheritance of the Duration of Life and the Intensity of Natural Selection in Man. Biometrika, Vol. I., Part 1.

POWYS (A. O.). Data for the Problem of Evolution in Man. Anthropometric data from Australia (English-speaking population). Biometrika, Vol. I., part 1. [Fertility of man and woman in rela-

tion to age; the correlation between the duration of life and the number of offspring, and the stature of man between the ages of 15 and 85.]

PEARSON (K.). On the Change in Expectation of Life in Man during a Period of circa 2,000 Years. [Compares the present expectation in England with that of certain social classes in Egypt in the Roman period.]

WELTON (T. A.). A Study of Some Portion of the Census of London for 1901. Journ. Stat. Soc., Sept.

WOLF (J.). Une nouvelle loi de population. Rev. d'Écon Pol., June. [Contends that the Malthusian law applies only to primitive people.]

VI. TRANSPORTATION.

CZERNIN (Count Rud.). Aufgaben u. Ziele des k. k. Eisenbahnministeriums. Kritische Betrachtungen über die Eisenbahnen in Oesterreich. Vienna: C. Gerold's Sohn in Komm. 1902. 8vo. pp. 317 and tables. 5 m.

HUBER (Prof. F. C.). Auf dem Wege zur Eisenbahngemeinschaft. Im Auftrage des württemb. Handelskammertages. Stuttgart: C. Grüninger. 1902. 8vo. pp. 273. 2 m.

STEVENS (W. J.). Investment and Speculation in British Railways. London: Wilson. 1902. 8vo. pp. 268. 4s.
[An analysis of railway returns for a dozen years past.]

In Periodicals.

CLAUS (H.). Die Eisenbahnfrage in Italien. Archiv f. Eisenb., 1902, Heft 5.

KNAPP (M. A.). Social Effects of Transportation. Annals Amer. Acad., July. [Modern means of transportation cause a too intense general competition.]

MCLEAN. The Canadian Government and the Railway Problem. Econ. Journ., Sept.

MEYER (B. H.). The Interstate Commerce Commission. Pol. Sci. Quarterly, Sept. [Aims to point out the "common principles" in the various decisions of the commission, and reviews the decisions of the Supreme Court and the proposed legislation.]

MILLIS (H. A.). The Present Street Railway Situation in Chicago. Annals Amer. Acad., Sept.

PETERS. Die finanzielle Entwicklung der preussischen Binnenwasserstrassen. Archiv f. Eisenb., 1902, Heft 4. [The writer is vortragender Rat im Ministerium der öffentl. Arbeiten.]

SEIBT (G.). Die verkehrswirtschaftliche Bedeutung der Binnenwasserstrassen. Jahrb. f. Gesetzg., 26, Heft 3.

TAYLOR (H.). British and American Shipping. Nineteenth Century, July.

WILSON (H. W.). Do English Railways earn their Dividends? Nat. Rev., Oct.

VII. FOREIGN TRADE AND COLONIZATION.

BOURQUILL (Baron A. de). La convention relative au régime des sucres conclue le 5 Mars 1902, à Bruxelles. Paris: Marchal et Billard. 1902. 8vo. pp. 59.

DÖNGES (Dr. Rhard.). Die handelspolitische Bedeutung der Ausführprämien. Frankfurt a. M.: Gebr. Knauer. 1902. 8vo. pp. 146. 3 m.

FURNESS (Sir C.). The American Invasion. London: Simpkin. 1902. 8vo. pp. 102. 1s.

GRÜNBERG (Prof. K.). Die handelspolitischen Beziehungen Oesterreich-Ungarns zu den Ländern an der unteren Donau. Leipzig: Duncker & Humblot. 1902. 8vo. pp. 324. 6.60 m.

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LEROY-BEAULIEU (Paul). De la colonisation chez les peuples modernes. 5me édition complètement remaniée. 2 vols. Paris: Guillaumin. 1902. 8vo. pp. 1260. 16 fr.

MARTINEAU (A.). Le commerce français dans le Levant. Paris: Guillaumin. 1902. 8vo. pp. 563. 12 fr.

MCKENZIE (F. A.). American Invaders. London: Richards. 1902. 8vo. pp. 256. 2*s.* 6*d.*

PATTEN (S. N.). Les fondements économiques de la protection, traduit par F. Lepelletier avec une introduction de M. Cauwès. Paris: Giard et Brière. 18mo.

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SPECK (Abgeordn.). Bericht der XX. Kommission (des Reichstags) üb. den derselben . . . überwiesen, am 5. III. 1902 in Brüssel zw. d. Reiche u. mehreren anderen Staaten abgeschlossenen Vertrag üb. die Behandlung des Zuckers. . . . Berlin: C. Heymann. 1902. Fol. pp. 68. 1.70 m.

TSCHIERSCHKY (Dr. S.). Die zollpolitischen Interessen der deutschen Textilveredlungsindustrie. Berlin: F. Siemenroth. 1902. 8vo. pp. 51. 1 m.

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BYNG (G.). Fiscal Problems of To-day. Fortnightly Rev., Sept. [Favors a protective tariff for England.]

CLERICI (L.). Le importazioni temporanee dei grani esteri in Italia. Giorn. degli Econ., July.

PLEHN (C. C.). Commerce and Tariffs in the Philippines. Journ. Polit. Econ., Sept. ["With any tariff Manila can ill compete with the great free ports of Hongkong and Singapore." . . .]

PRICE (L. L.). Free Trade and Protection. Econ. Journ., Sept.

TOWNSHEND (C. C.). The American Industrial Peril. Contemporary Rev., Oct.

VIII. MONEY, BANKING AND EXCHANGE.

ALLOCHIO (S.). Le beneficenza e le sovvenzioni a scopo di utilità publica presso la casso di risparmio delle provincie lombarde. Milan: Hoepli. 1902. 8vo. pp. 192. 3 l.

ARNAUNÉ (A.). La monnaie, le crédit, et le change. 2me édition, revue et augmentée. Paris: Alcan. 1902. 8vo. pp. 430. 8 fr.

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CLEVELAND (F. A.). Funds and their Uses, a treatise on instruments, methods, and institutions in modern finance. New York: D. Appleton & Co.

GUERZA (J.). Apuntes sobre la coestion de la plata en México. Durango: Dorador. 1902. 8vo. pp. 86.

HECHT (Dr. Fel.). Die Mannheimer Banken 1870 bis 1900. Beiträge zur prakt. Bankpolitik. Leipzig: Duncker & Humblot. 1902. 8vo. pp. 158. 3.80 m. [In Schmoller's Forschungen.]

LORINI (E.). La republica argentina. Vol. I. La questione monetaria. Rome: Loescher. 1902.

NICHOLSON (J. S.). Banker's Money. London: Black. 1902. 8vo. pp. 92. 2*s.* 6*d.* [Supplement to the author's treatise on money.]

PRATT (S. S.). The Work of Wall Street. New York: D. Appleton Co.

ROBERT (G.). Des variations du taux de l'intérêt: leurs causes et

leurs conséquences. Lyon: Storck. 1902. 8vo. pp. 191.

THIRY (C.). Traité juridique et mathématique des opérations de banque. Ghent: Hoste. 1902. 8vo. pp. 444. 5 fr.

WEBER (Dr. Adf.). Depositenbanken und Spekulationsbanken. Ein Vergleich deutschen und englischen Bankwesens. Leipzig: Duncker & Humblot. 1902. 8vo. pp. 318. 6.80 m.

In Periodicals.

FRANCOIS (G.). Les banques anglaises. Rev. d'Écon. Pol., July.

HOURWICH (J. A.). Production and Consumption of the Precious Metals. Journ. Polit. Econ., Sept. [An elaborate examination of statistics with a few conclusions appended.]

LAUGHLIN (J. L.). Prices and the International Movement of Specie. Journ. Polit. Econ., Sept. [An adverse criticism of old doctrines, and of the "quantity theory" in particular.]

MAMROTH (K.). Die schottischen Banken. Jahrb. f. Nat. Oek., 24, Heft 1.

MARTIN Y HERRERA (F.). Le billet de banque à cours forcé dans la république argentine. Rev. d'Écon. Pol., July.

MITCHELL (W. C.). The Circulating Medium during the Civil War. Journ. Polit. Econ., Sept. [A chapter of a forthcoming work entitled "A History of the Greenbacks with Special Reference to the Economic Consequences of their Issue 1862–1865."]

MORISON (T.). The Instability of Prices in India before 1861. Journ. Stat. Soc., Sept.

IX. FINANCE AND TAXATION.

DESCHAMPS (Ph.). Les finances d'autrefois et celles d'aujourd'hui. Les budgets de la France (1870–1902). Paris: Lemerre. 1902. 16mo. pp. 123. 3.50 fr.

DEWEY (D. R.). Financial History of the United States. New York: Longmans, Green & Co.

DUBOIS (P.). Évaluation des dépenses et des recettes dans le budget de l'état. Rennes: Simon. 1902. 8vo. pp. 183.

EINAUDI (L.). Studi sugli effetti delle imposte. Turin: Fratelli Bocca. 1902. 8vo. pp. 289. 6 l. [An admirable work.]

MORAWITZ (Ch.). Les finances de la Turquie. Paris: Guillaumin. 1902. 8vo. pp. 440. 7.50 fr.

MULLER (Dr. O.). Die Einkommensteuergesetzgebung in den verschiedenen Laendern. Jena. G. Fischer. 1902. 8vo. pp. 110. 2.50 m.

[Sammlung des Seminars zu Halle.]

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ARON (E.). Ueberblick über die Steuerreform in Elsass-Lothringen. Ann. des Deutsch. Reichs, 1902, No. 8.

HERTZOG (Aug.). Die elsass-lothringischen Gesetze, betreffend die Kapital-, Lohn-, und Besoldungssteuer, und die Verwendung dieser Steuern. Jahrb. f. Nat. Oek., 24, Heft 2.

PRICE (L. L.). La tassazione locale in Inghilterra. Giorn. degli Econ., Aug.

THRÄN (W.). Die Kontrole des Haushalts des Deutschen Reichs. Ann. des Deutsch. Reichs, 1902, No. 7. [The writer is vortragender Rat bei dem Rechnungshofe d. Deutsch. Reichs.]

X. INDUSTRIAL ORGANIZATION.

BOLEN (G. L.). Plain Facts as to the Trusts and the Tariff, with Chapters on the Railroad Problem and Municipal Monopolies. New York: The Macmillan Co. 1902. 12mo. pp. 451. $1.50.
[Somewhat popular in style.]

DOLLÉANS (E.). L'accaparement. Paris: Larose. 1902. 8vo. pp. 428. 6 fr.

LÉAUTEY (E.). Traité de comptabilité industrielle de précision, avec modèles d'application à une brasserie malterie. Paris: Librairie comptable et administrative. 1902. 8vo.

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MEADE (E. S.). Trust Finance. New York: D. Appleton & Co.

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